Highway 1 Improvements at Pitkins Curve and Rain Rocks

On Route 1, about 0.5 mile north of Limekiln Creek and 1.5 miles south of Lucia, on the Big Sur coast, Monterey County, California
05-MON-1 KP 34.2/34.8; PM 21.3/21.6
05-0E9600

Draft Environmental Impact Report

Prepared by the
State of California
Department of Transportation

January 2006

General Information about this Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Draft Environmental Impact Report, which examines the potential environmental impacts of alternatives being considered for the proposed project located in Monterey County, California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, potential impacts from each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this Draft Environmental Impact Report. Additional copies of this document are available for review at:
  - Caltrans district office at 50 Higuera Street, San Luis Obispo, CA
  - Big Sur Library, Highway 1, Big Sur, CA
  - Monterey City Library, 625 Pacific Street, Monterey, CA
  - San Luis Obispo County Library, 995 Palm Street, San Luis Obispo CA
  - Online at www.dot.ca.gov/dist05/projects/pitkins_deir
- Attend a public hearing. Two public hearings will be held:
  - Tuesday, March 21, 2006.
    Open house from 5:00 p.m. to 8:00 p.m. with a brief presentation at 6:00 p.m.
    Big Sur Lodge Conference Rm., Pfeiffer Big Sur State Park, Highway 1, Big Sur, CA
  - Wednesday, March 22, 2006.
    Open house from 5:00 p.m. to 8:00 p.m. with a brief presentation at 6:00 p.m.
    Cambria Veteran's Hall, 1000 Main St., Cambria CA
- We welcome your comments. If you have any concerns regarding the proposed project, please attend the public hearing and/or send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:
  Wendy Waldron,
  California Department of Transportation, Central Coast Management Branch
  50 Higuera St., San Luis Obispo, CA 93401
- Submit comments via email to: wendy_waldron@dot.ca.gov.
- **Submit comments by the deadline: April 7, 2006**

What happens next?

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) undertake additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: John Luchetta, Central Coast Management Branch, 50 Higuera Street, San Luis Obispo, CA 93401; 805-549-3493 Voice, or use the California Relay Service TTY number, 1-800-735-2929.

Highway 1 Improvements at Pitkins Curve and Rain Rocks

05-MON-1 KP 34.2/34.8; PM 21.3/21.6

05-0E9600

Draft Environmental Impact Report

ERRATA

Prepared by the State of California Department of Transportation

February 2006

CORRECTIONS TO THE DEIR ARE REFERENCED BY PAGE AND SECTION NUMBER AND DISPLAYED IN LARGE BOLDFACE TYPE BELOW:

Page 21, Section 1.4.3: No-Build Alternative, 4th sentence

Routine costs are expected to remain similar to what is currently spent and escalated costs are estimated to be **$112,000,000** over the fifty-year period that represents the life span of the structures proposed in Alternatives 1 and 2.

Page 29, Section 1.4.4: Comparison of Alternatives,

Table 2: Summary of Project Comparison Criteria and Effects by Alternative

Comparison Criteria		Alternative 1	Alternative 2	No-Build Alternative
Cost	Current Cost	$26.5 to 35.6 million	$16.2 to 19.2 million	N/A
	Maintenance Costs	$1.7 million	$ 9.0 million	**$ 112.0 million**

SCH# 2003 111 016
05-MON-1 KP 34 2/34 8
PM 21 3/21.6
05-0E9600

Highway 1 Improvements at Pitkins Curve and Rain Rocks

Stabilize Highway 1 from 0 5 mile north of Limekiln Creek to 1.5 miles south of Lucia, on the Big Sur Coast in Monterey County, California (Mon-1 KP 34 2/34.8; PM 21.3/21 6)

DRAFT ENVIRONMENTAL IMPACT REPORT

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

1/26/06
Date of Approval

for R. Gregg Albright,
District Director, District 5
California Department of Transportation
50 Higuera Street
San Luis Obispo, California

Summary

Location

The California Department of Transportation (Caltrans) and the Federal Highway Administration propose improvements to Highway 1 at Pitkins Curve and the northern chute of Rain Rocks along the Big Sur Coast in Monterey County, California (5-Mon-1 KP 34.2/34.8; PM 21.3/21.6). The project is on a state scenic highway and national scenic byway "All-American Road," which is the only direct coastal link to the communities between San Simeon (San Luis Obispo County) and Carmel (Monterey County).

Need and Purpose

Unpredictable and extensive landslides repeatedly occur at Pitkins Curve/Rain Rocks, reducing or severing travel on Highway 1 for months at a time. Emergency highway restoration increases risk for highway workers, elevates costs, restricts highway restoration methods, and limits avoidance and minimization of environmental impacts. Routine maintenance is riskier and costs more than for other locations on Highway 1. The hillsides will continue to slide, the highway will be damaged repeatedly, and it will likely be severed again. The project's purpose is to decrease maintenance expenditures and increase safety and roadway reliability.

Alternatives

The project evaluates two build alternatives and the No-Build Alternative. Alternative 1 would construct a bridge at Pitkins Curve and rock shed at Rain Rocks. Alternative 2 would construct a bridge at Pitkins Curve and continue with active management at the Rain Rocks location. The No-Build Alternative would make no improvement to the project location. Six additional alternatives were considered and withdrawn.

Caltrans has identified Alternative 1 as the preferred alternative because it provides the safest and most reliable highway facility and provides efficiencies of expenditures and construction.

Environmental Effects of the Alternatives

Table 1 provides a comparison of the potential environmental impacts for each build alternative and the No-Build Alternative. Potential impacts that have been highlighted in yellow are those that differ by alternative. Chapter 2 provides a detailed discussion of the topics covered in Table 1.

Schedule and Project Costs

The project was programmed in the 2004 State Highway Operation and Protection Program with $24,039,000 of construction funds for the 2007/2008 fiscal year. The 2006 State Highway Operation and Protection Program will adopt construction costs of $30, 618,000 for the 2008/2009 fiscal year.

The project is currently scheduled to complete milestones as indicated below:

- Final Environmental Impact Report — June 2006
- Final Design — July 2008
- Advertise for Construction — October 2008
- Start Construction — March 2009
- End Construction — March 2013

Table 1. Summary of Project Effects by Alternative

Potential Environmental Impacts		Alternative 1	Alternative 2	No-Build Alternative
Land Use 2.1		1.75 hectares (4.25 acres) of California State Park land is included in the project area. Caltrans identified this land, as a result of 2002 emergency highway restoration, for purchase to use as highway right-of-way. Purchase pending.	1.75 hectares (4.25 acres) of California State Park land is included in the project area. Caltrans identified this land, as a result of 2002 emergency highway restoration, for purchase to use as highway right-of-way. Purchase pending.	As a result of 2002 emergency highway restoration, 1.75 hectares (4.25 acres) of California State Parks land was identified for purchase by Caltrans to use as highway right-of-way. Purchase pending.
Coastal Zone 2.1.1	**Local Coastal Program**	While this alternative presents both conflict and consistency, on balance the project is consistent with the local coastal plan.	While this alternative presents both conflict and consistency, on balance the project is consistent with the local coastal plan.	The No-Build Alternative is in conflict with the local coastal plan because it does not act to facilitate public access to the coast.
	California Coastal Act	While this alternative presents both conflict and consistency, on balance the project is consistent with the California Coastal Act.	While this alternative presents both conflict and consistency, on balance the project is consistent with the California Coastal Act.	The No-Build Alternative is in conflict with the California Coastal Act because it does not act to facilitate public access to the coast.
Traffic & Transportation/ Pedestrian & Bicycle Facilities 2.1.3		Improves reliability and safety of the highway. Provides improved facilities for non-motorized travel. Does not preclude future development of trails.	Improves reliability and safety of the highway. Provides improved facilities for non-motorized travel. Does not preclude future development of trails.	No change
Visual/Aesthetics 2.1.4		Addition of rock shed to state scenic highway would result in significant impacts to the aesthetic qualities of the Big Sur coast. *Mitigation proposed*.	Addition of bridge to state scenic highway would not substantially change the aesthetic qualities of the Big Sur coast. *Avoidance and minimization measures proposed*.	No change
Natural Communities 2.3.1		Removes approximately 0.4 hectare (1.0 acre) of coastal sage scrub. *Minimization measures proposed*.	Removes approximately 0.4 hectare (1.0 acre) of coastal sage scrub. *Minimization measures proposed*.	No anticipated impact

Potential Environmental Impacts		Alternative 1	Alternative 2	No-Build Alternative
Wetlands/ other Waters 2.3.2	U.S. Army Corps	No Army Corps of Engineers wetlands in project area.	No Army Corps of Engineers wetlands in project area.	No impact
	Other Waters of U. S.	Less than 0.01 hectare (0.01 acre) of unvegetated seeps and springs would be redirected. *Minimization measures proposed.*	Less than 0.01 hectare (0.01 acre) of unvegetated seeps and springs would be redirected. *Minimization measures proposed.*	No impact
	Coastal Zone	No anticipated impact to wetlands under jurisdiction of the local coastal program. *Minimization measures proposed*.	No anticipated impact to wetlands under jurisdiction of the local coastal program. *Minimization measures proposed*.	No impact
Threatened/Endangered Species 2.3.4		No effect to threatened or endangered species. *Avoidance and minimization measures proposed.*	No effect to threatened or endangered species. *Avoidance and minimization measures proposed.*	No impact
Construction 2.4	Excess Material	Alternative would result in 11,000 cubic meters of excess material.	Alternative would result in 22,000 cubic meters of excess material.	Up to 100,000 cubic meters of excess material from unpredictable landslide and rockfall. Between 10,000 and 30,000 cubic meters of excess material from annual routine maintenance.
	Traffic	Restriction of roadway to one lane on non-holidays during non-summer months for duration of construction. Nighttime full closures. Traffic flow impacts from scheduled increased heavy equipment traffic. *Avoidance and minimization measures proposed.*	Restriction of roadway to one lane for about a month. Nighttime full closures. Traffic flow impacts from scheduled increased heavy equipment traffic. *Avoidance and minimization measures proposed.*	Unscheduled and potentially extensive full lane closures and lane restrictions due to landslides and rockfall. Occasional regular closures and traffic disruption due to annual maintenance cleanup activities.
	Duration	Approximately 922 working days; equates to about 4.5 years.	Approximately 822 working days; equates to about 4.0 years.	On-going

Potential Environmental Impacts		Alternative 1	Alternative 2	No-Build Alternative
	Noise	Increased noise at construction site. Increased noise (of 1 dBA) would be imperceptible at nearby sensitive receptors. *Avoidance and minimization measures proposed.*	Increased noise at construction site. Increased noise (of 1 dBA) would be imperceptible at nearby sensitive receptors. *Avoidance and minimization measures proposed.*	Increased noise at construction site. Increased noise (of 1 dBA) from unscheduled and annual maintenance activities would be imperceptible at nearby sensitive receptors.
	Water Quality	Potential for suspended solids, dissolved solids, and organic pollutants to be introduced into the ocean. *Avoidance and minimization measures proposed.*	Potential for suspended solids, dissolved solids, and organic pollutants to be introduced into the ocean. *Avoidance and minimization measures proposed*.	Potential for suspended solids, dissolved solids, and organic pollutants to be introduced into the ocean.
	Air Quality	No exceedances anticipated.	No exceedances anticipated.	No exceedances anticipated.
	Site Appear-ance	Temporary impacts from earth movement, distracting activities, and storage of equipment and materials. *Avoidance and minimization measures included.*	Temporary impacts from earth movement, distracting activities, and storage of equipment and materials. *Avoidance and minimization measures included.*	On-going impacts from earth movement, distracting activities, and storage of equipment and materials.
	Cultural	No effects anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No effects anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No impact
	Paleon-tology	No effects anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No effects anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No impact
	Haz Waste	No effects anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No effects anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No impact
Cumulative Impacts 2.1.4		Alternative 1 has been considered with other projects in the area for its potential to contribute to cumulative impacts. Addition of bridge and rock shed would contribute to cumulative visual impacts. *Minimization measures proposed.*	Alternative 2 has been considered with other projects in the area for its potential to contribute to cumulative impacts. Addition of bridge would contribute to cumulative visual impacts. *Minimization measures proposed.*	Not applicable

Environmental Determination

The Highway 1 Improvements at Pitkins Curve and Rain Rocks Project is subject to review under the California Environmental Quality Act. Because the project would expend federal funds and requires federal approval from the Federal Highway Administration, it is also subject to review under the National Environmental Policy Act.

For this project, impacts to the visual quality of the state scenic highway/national scenic byway along the Big Sur coast have been determined to be significant under the California Environmental Quality Act. The Draft Environmental Impact Report has been prepared in compliance with the California Environmental Quality Act.

Final selection of an alternative will not be made until after the full evaluation of environmental impacts, full consideration of public hearing comments, and approval of the final environmental document.

Following receipt of public comments on the Draft Environmental Impact Report and circulation of the Final Environmental Impact Report, Caltrans, as lead agency, will determine whether to certify the Final Environmental Impact Report and issue Findings and a Statement of Overriding Considerations.

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List of Abbreviated Terms

Caltrans	California Department of Transportation
CFR	Code of Federal Regulations
CEQA	California Environmental Quality Act
FHWA	Federal Highway Administration
KP	kilometer post
NEPA	National Environmental Policy Act
PM	post mile
USC	United States Code

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes improvements to Highway 1 to restore highway reliability, decrease maintenance expenditures, and protect highway workers at Pitkins Curve and the northern chute of Rain Rocks along the Big Sur Coast in Monterey County, California. See Figures 1-1 and 1-2.

Unstable geology and winter storms cause unpredictable and extensive landslides and rockfall at Pitkins Curve/Rain Rocks. These events regularly reduce and sever travel for months at a time on Highway 1, a state scenic highway and national scenic byway "All-American Road," and the only direct coastal link to communities between San Simeon and Carmel. Highway restoration is generally conducted under emergency conditions, which increases risk to highway workers, elevates costs, restricts the range of methods available to restore the highway, and limits ways to avoid or minimize impacts to traffic movement, the economy, and the environment. At this location, even the routine maintenance of managing the landslides is riskier and has higher maintenance costs than for other locations on the Big Sur Coast Highway. Caltrans geologists and geotechnical engineers have studied the slopes at Pitkins Curve/Rain Rocks and concluded that the hillside will continue to slide, the highway will be damaged repeatedly, and it will likely be severed again.

Section 1.2.1 provides the historical context for the project. Section 1.2.2 introduces the land use plans the project was developed under and evaluated within. Section 1.2.3 discusses related highway projects. Section 1.3 presents the highway deficiencies, the need for, and the purpose of the proposed project.

The project evaluates two build alternatives and the No-Build Alternative. Alternative 1 would construct a bridge at Pitkins Curve and a rock shed at Rain Rocks. Alternative 2 would construct a bridge at Pitkins Curve and provide no built improvement to the Rain Rocks location, but would rather continue with active management of the location. The No-Build Alternative would make no improvement to the entire project location, but would continue with active management of it. Six additional alternatives were considered and withdrawn. Each of these alternatives is discussed in more detail in Section 1.4.

Caltrans has studied the alternatives and identified Alternative 1 as the preferred alternative because it would provide the safest and most reliable highway and would

be the most efficient use of funds and construction effort. Final selection of an alternative will not be made until after the full evaluation of environmental impacts, full consideration of public hearing comments, and approval of the Final Environmental Document.

The estimated construction costs for the viable project alternatives range from $18.1 million to $31.1 million and would be funded through the HA23 program of the 2006 State Highway Operation and Protection Program in the 2007/2008 fiscal year.

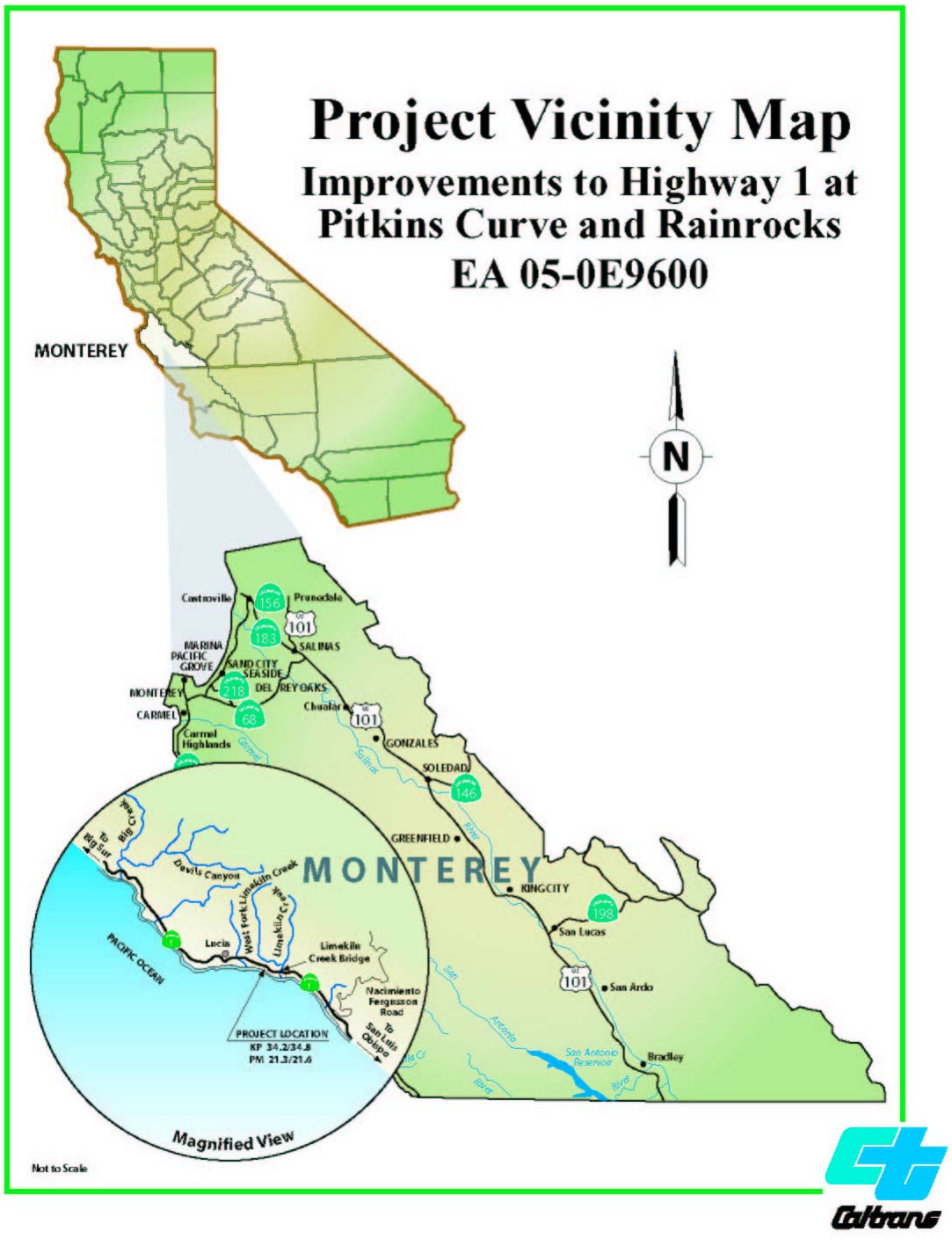

Figure 1-1 Project Vicinity

Figure 1-2 Project Location

1.2 Background

1.2.1 History of Landslides and Highway Repair

Slopes above and below Highway 1 at Pitkins Curve/Rain Rocks are in a constant state of erosion and continually shed debris onto the highway and slump below it. Landslides and rockfall have closed the highway from time to time since it was constructed in 1937. Records from between 1973 and 1997 tell of landslides that closed the highway at Pitkins Curve/Rain Rocks an average of two days per event while clean-up activities were conducted. Since 1998, erosion has increased significantly at Pitkins Curve/Rain Rocks, closing the highway every two to three years for months at a time and requiring unexpected, disruptive, and costly roadway reconstruction.

The 1998 El Niño storms caused the most damage to the Big Sur Coast Highway in its history. At Pitkins Curve, these storms triggered landsliding below the highway, causing the southbound lane to collapse. To restore the highway, the embankment was partially reconstructed at a cost of $1 million. Traffic was disrupted for five months. El Niño also activated rockfall at Rain Rocks, causing unsafe conditions for travelers and highway workers. To ensure their safety, the slope was covered with a wire mesh rock net. This effort cost about $1 million and disrupted traffic for 20 days.

In 2000, a massive landslide, below the highway at Pitkins Curve, removed 100 meters (300 feet) of both lanes of the highway. Configuration of the slide, constraints of terrain, and potential environmental impacts dictated that the roadway be relocated inland to restore its full width. To accomplish this, 76,000 cubic meters (100,000 cubic yards) of landslide debris was removed in 7,000 truckloads. This event closed the highway for 30 days and travel was severely limited for a subsequent 60 days. The cost of this highway repair was $3.4 million.

When winter storms hit the coast in 2001, landsliding resumed above Pitkins Curve and rockfall intensified at Rain Rocks. A catchment ditch and an earth berm were constructed at the base of the hillside to contain landslide material until it could be trucked out for stockpiling. A portion of the rock net at the north chute of Rain Rocks was replaced with a stronger cable mesh. Traffic was disrupted for two months while cable mesh was installed and 1400 truckloads of material were removed from the highway. The cost of these repairs was $1.5 million.

Since 2001, the slopes above Pitkins Curve/Rain Rocks have continued to shed debris onto the highway. Each year, approximately 7,646 cubic meters (10,000 cubic yards or 700 truckloads) of material are transported away from the site. These routine maintenance efforts require about 10 days of road closure and cost an average of $1 million each year.

1.2.2 Planning Context

Monterey County Local Coastal Plan

The project is subject to the requirement of obtaining a Coastal Development Permit from Monterey County under its delegated authority to implement provisions of the California Coastal Act with its certified Local Coastal Program of 1986. Specifically,

the project is subject to the policies of the Monterey County Big Sur Coast Land Use Plan.

Big Sur Coast Land Use Plan policies are discussed under the regulatory setting for affected resources presented in Chapter 2: Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures. In addition, a discussion of the project's consistency with the California Coastal Act and Monterey County Big Sur Coast Land Use Plan is presented in Section 2.1.1: Consistency with Local Land Use Plans.

Monterey County is updating their General Plan. Until the update is complete, the current General Plan remains in effect. The Coastal Commission is currently conducting a periodic review of the Monterey County Local Coastal Plan.

Coast Highway Management Plan

Caltrans, in conjunction with a steering committee made up of 19 organizations[1], underwent a five-year collaborative process to revise the Corridor Management Plan for Highway 1. This effort was undertaken in cooperation with the Federal Highway Administration and under the authority of the National Scenic Byways Program.

The result of these efforts is the *Big Sur Coast Highway Management Plan.* The Plan covers the part of the Big Sur Coast Highway 1 that is a designated National Scenic Byway "All-American Road," between the Carmel River in Monterey County and San Carpoforo Creek in San Luis Obispo County. It establishes a framework for continued safe and efficient operation of Highway 1 through a series of management guidelines on 1) Corridor Aesthetics, 2) Landslide Management and Storm Damage Response, And 3) Vegetation Management. These guidelines provided the framework for developing the Highway 1 Improvements at Pitkins Curve and Rain Rocks Project.

1.2.3 Related Projects

Related projects in the area are shown on Figure 1-3.

[1] Association of Monterey Bay Area Governments, Big Sur Chamber of Commerce, Big Sur Land Use Advisory Committee, Big Sur Multi-Agency Advisory Council, CA Coastal Commission, CA Department of Parks & Recreation, CA State Assembly 27th District, CA State Senate 15th District, Coast Property Owners Association, Coast Watch, Monterey Bay National Marine Sanctuary, Monterey County Planning & Building, Monterey County District 5 Supervisorial District, Monterey County Travel & Tourism Alliance, South Coast Advisory Committee, US Congress 17th District, and the U.S. Forest Service.

Pitkins Curve Pilot Project *(5-Mon-1 PM 21.5)*

The goal of the Pitkins Curve pilot project is to mimic the natural processes of landslide material making its way naturally to the sea while monitoring the environmental effects of the process. Soil generated from the active slide at Pitkins Curve above the highway was placed below the highway behind a constructed dirt berm west of Pitkins Curve. Though the placed soil will not immediately affect the marine environment, gradual downward migration of the soil towards the ocean is expected. As part of the project, the existing marine environment was characterized and is being monitored for a three-year period. This project is funded, the environmental determination has been completed, permits have been secured and is ongoing.

Limekiln Bridge *(5-Mon-1 PM 21.1)*

Scouring (erosion caused by moving water) at the north abutment of Limekiln Creek Bridge was identified and a study was initiated to find a solution.[2] A number of solutions were investigated, including one that would have included fixing the deficiencies at Pitkins Curve and Rain Rocks in combination with those at the Limekiln Creek Bridge. (Refer to Section 1.4.5: Alternatives Considered and Withdrawn for a discussion of the Tunnel Alternative). Ultimately, the alternative selected to address the scouring at Limekiln Creek Bridge was an augmentation of the north bridge foundation. The project is a candidate for funding in 2006 with completion of the environmental document anticipated in 2008 and start of construction expected in 2010.

Hermitage Slope *(5-Mon-1 PM 21.9/22.1)*

The Hermitage Slope project proposes to reconstruct the Highway 1 southbound lane by building a soldier pile tieback retaining wall with treated timber lagging to support the embankment. A steel-backed timber guardrail would be placed along the outside shoulder. The construction would generate about 2,500 cubic meters (3,340 cubic yards) of soil, which would be taken to a nearby inland site, placed, and planted with native grasses and shrubs. This project is funded and environmental compliance was completed in 2004. Start of construction is anticipated in 2006 with completion in 2007.

[2] Project Study Report for Limekiln Creek Bridge Improvements, prepared by Caltrans, 9/14/04.

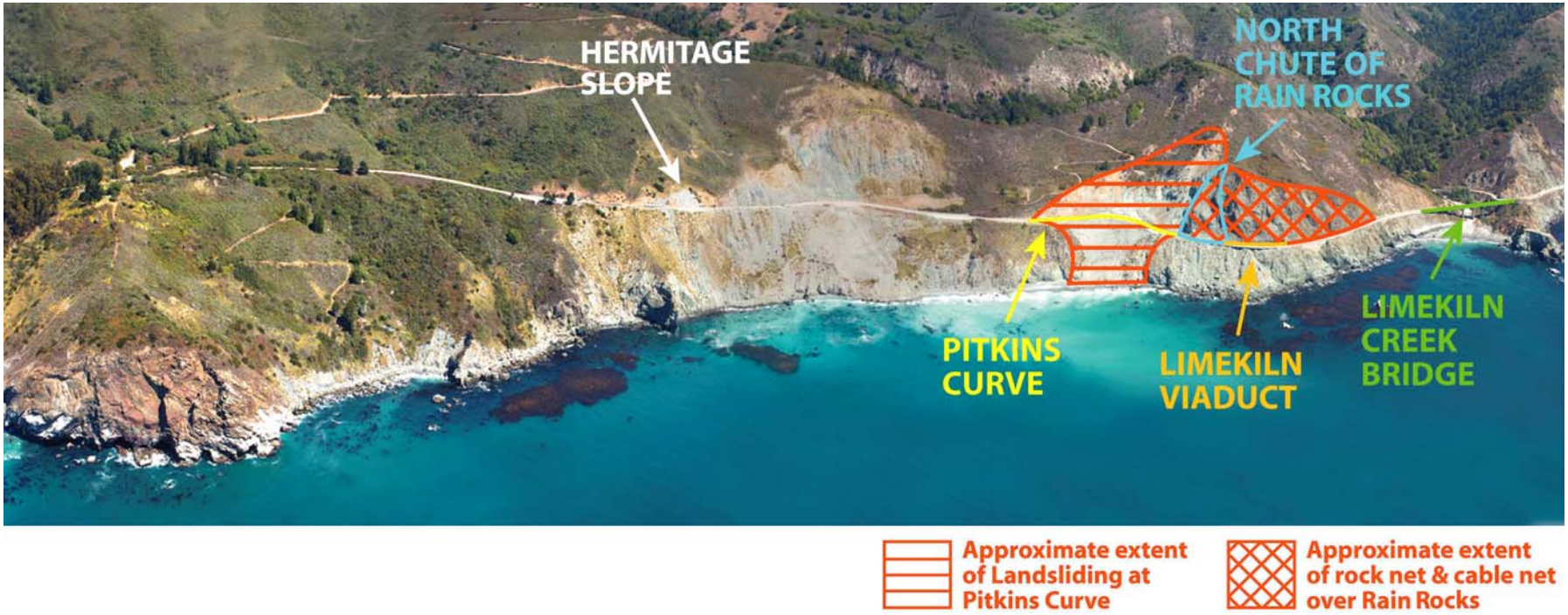

Figure 1-3 Location of Nearby and Related Projects

1.3 Purpose and Need

1.3.1 Purpose

The purpose of the Pitkins Curve/Rain Rocks Project is to provide improvements that substantially decrease maintenance expenditures and appreciably increase highway worker safety and roadway reliability, dependability, and safety while minimizing environmental impacts at the Pitkins Curve/Rain Rocks location.

1.3.2 Need

1.3.2.1 Location

The project is located on Highway 1 (the Big Sur Coast Highway) between kilometer post 34.2 and 34.8 (Postmile 21.3 and 21.6), in Monterey County, about 0.9 kilometer (0.5 mile) north of Limekiln Creek and 1.8 kilometers (1.5 miles) south of Lucia. The 0.6-kilometer (0.3-mile) -long project encompasses two areas of roadway instability, which are commonly known as “Pitkins Curve” and the northern chute of “Rain Rocks.” Rain Rocks is a 35-meter (115-foot) -long section of roadway, at the southern limit of the project, extending between the Limekiln Viaduct and a projecting unnamed ridgeline. Just north, around the corner, is Pitkins Curve, where the highway hugs a 230-meter (755-foot) -long landslide in a 70-meter (230-foot) radius curve. Refer to Figures 1-1 and 1-2.

The stretch of coastline surrounding the project area, from San Simeon to Carmel, is world-renowned as one of California's most beautiful and majestic. It provides breathtaking views from the narrow roadway overlooking the Pacific Ocean. Here, Highway 1 is a state scenic highway and a national scenic byway “All-American Road.” It is the primary access road that serves the Big Sur communities and the vast number of tourists who visit there. Residents and travelers, alike, rely on the highway for essential and emergency services, for support of the area's economy, and for access to recreational sites.

This stretch of coastline is also known to be geologically active and unstable. The area has a mild climate but typically receives heavy rainfall from Pacific storms in the winter months. Over the years, these disruptive forces have caused rockfall and landslides, stripped vegetation from the nearby hillsides, and damaged the highway.

1.3.2.2 Roadway Deficiencies

The transportation concept for the Big Sur Coast Highway provides for 9.8 meters (32 feet) of paved width consisting of two 3.6-meter (12-foot) lanes, each with 1.2-meter (4-foot) shoulders. The current roadway at Pitkins Curve/Rain Rocks has two 3.4-meter (11-foot) lanes with 0.6 to 1.2-meter (2- to 4-foot) shoulders.

Geology and Slope Instability

At Pitkins Curve/Rain Rocks, Highway 1 traverses the rugged and steep slopes of the Santa Lucia Mountains, the steepest coastal slope in the contiguous United States. It is a narrow ledge perched 60 meters (190 feet) above the Pacific Ocean. The area is characterized by steep terrain with deeply cut drainages and narrow crested ridges. Much of the mountainside is a collection of broken and weak Franciscan rocks covered with eroded soils and highly prone to landslides, as is the case at Pitkins Curve. Within the Franciscan collection, there are some blocks of semi-volcanic rocks that are relatively large and hard. Rain Rocks is one of these blocks, covered with rock and soil. Groundwater, surface water infiltration, and erosion contribute to the landsliding and rockfall at Pitkins Curve/Rain Rocks. Heavy rainfall from Pacific storms in the winter months often trigger landsliding and rockfall.

Effects of Roadway Failures

The amount of labor and cost to maintain Highway 1 at Pitkins Curve/Rain Rocks is high and, because of the unpredictable nature of the instabilities, difficult to forecast. Repair of catastrophic failures and routine maintenance efforts at Pitkins Curve/Rain Rocks substantially interrupts local and tourist traffic because there are no reasonable alternative routes to Highway 1. Regional economies can be profoundly affected by Highway 1 road closures. Roadway closures require maintenance and construction workers to perform activities that demand extraordinary safety precautions. Environmental impacts, particularly those associated with disposal of landslide material, are difficult to avoid or minimize when highway restoration is conducted under emergency conditions. During emergency highway restoration, ensuring public safety may take precedence over minimizing environmental impacts.

High Repair and Maintenance Costs

The Pitkins Curve/Rain Rocks location costs more to restore and maintain than any location on the Big Sur Coast Highway. Since 1998, the cost to maintain Highway 1 at Pitkins Curve/Rain Rocks has ranged from a half million dollars to $3.4 million a year, in response to the magnitude of damage inflicted by landslides. Between 1998 and 2004, an approximate total of $8 million has been spent at this location to keep

Highway 1 open; more than one million dollars annually. By comparison, the other unstable Big Sur Coast Highway locations needing regular maintenance require between $10,000 and $20,000 each year.

Funding for emergency highway restoration can be obtained from the state, or if damage were widespread and a Federal State of Emergency were declared (as was the case during the El Niño storms of 1998), from federal sources. Availability of emergency funding can be uncertain, however, and is dependent on the use of funds for other emergency projects throughout the state and nation.

Travel Disruption

During each of the years when catastrophic events have affected Highway 1 at Pitkins Curve/Rain Rocks (1998, 2000, and 2001), the highway was closed for at least a month while restoration activities were undertaken. Traffic was further disrupted (generally limited to one lane) for between 20 and 120 days during each of these years. Use of Highway 1 is reduced to one lane an average of 10 days every year for routine maintenance.

Highway 1, between San Simeon and Carmel, is designated an “All-American Road” as part of the National Scenic Byways Program to distinguish it as a roadway of such spectacular beauty as to be considered a destination unto itself. Additionally, it is the only direct route between world-renowned tourist destinations such as Big Sur and Hearst Castle near San Simeon. Approximately 95 percent of vehicles traveling on the Big Sur Coast Highway are visiting from out of the area. Highway 1 is of utmost importance for tourist and recreational travel and as a conduit for the local economy.

When the highway is closed at Pitkins Curve/Rain Rocks, travelers must either wait until the road is open or travel up to 100 miles out of direction to reach their destination. Traffic interruptions adversely affect emergency response, transport of essential goods, transport to basic services (such as to work, school, and for household necessities), local and regional economies, and the general quality of life.

When travel is disrupted on Highway 1, the local and regional economy is profoundly affected by the loss of tourism and the revenue it generates. In 2000, the extensive road closures led to a 6 to 10 percent decrease in visitation at Hearst Castle and an annual estimated loss of approximately $150,000 to the Department of Parks and Recreation. Visitors to Hearst Castle account for about a third of the $900 million tourist-related revenue generated in San Luis Obispo County and an unspecified amount of that in Monterey County.

Highway Worker Safety

Highway workers regularly operate in areas of extreme concern for safety while maintaining the roadway at Pitkins Curve/Rain Rocks. They remove rock by scaling cliffs with technical climbing equipment and knocking down precariously situated boulders from the hillside to the roadway below. Highway workers also scoop up rocks that have fallen behind the protective berms or onto the highway using mechanized equipment, such as loaders and dump trucks. These activities place highway workers within the most active rockfall areas. Rocks have rolled down the slope and/or through the net and entered the work area. Traffic moving through a work area is a safety concern as well, especially when rockfall causes vehicles to make evasive maneuvers. Extraordinary precautions must be taken to ensure worker safety while maintaining Pitkins Curve/Rain Rocks. Exposure to rockfall is high and Caltrans highway workers have reported numerous rockfall-related accidents.

Environmental Impacts

Environmental impacts, particularly those associated with soil disposal, are difficult to avoid or minimize when emergency restoration work is undertaken on the highway. Among the most difficult and expensive activities at Pitkins Curve/Rain Rocks is the handling of large volumes of rock and soil generated by landslides and subsequent highway repair. In times past, soil would generally be pushed seaward. Since the designation of the Monterey Bay National Marine Sanctuary in 1992, however, this practice has been avoided, in response to concern over potential impacts to the marine environment. Consequently, soil must be trucked to inland locations. Material from Pitkins Curve/Rain Rocks is generally transported to the Willow Creek or Grey Slip sites, 10 and 15 miles south, respectively. The number and capacity of nearby stockpile sites is limited and diminishing. As soil is transported further and further from where it was generated, the associated monetary and environmental costs increase.

In two of the years when catastrophic landsliding has occurred at Pitkins Curve/Rain Rocks (1998 and 2000), an average of 7,000 truckloads of soil were transported over Highway 1 from Pitkins Curve/Rain Rocks to stockpile sites up to 24.1 kilometers (15 miles) away. Annual routine maintenance generally requires transport of about 700 truckloads of soil from the site to stockpile locations. Heavy truck travel on Highway 1 degrades air quality and contributes to traffic disruption.

1.3.2.3 Roadway Safety

Safety

Between January 1, 2001 and December 31, 2003, there were a total of three collisions within the project limits. This accident data does not represent a concentration and no accident patterns can be identified. Traffic safety would be improved by straightening the roadway as much as practical to reduce the potential for vehicles to run off the road. Three vehicles traveling through Pitkins Curve/Rain Rocks have been struck by falling rock, causing damage to the vehicles. These rockfall events did not result in injury or lead to more serious accidents.

1.4 Alternatives

This section describes the alternative solutions for the proposed project and the process used in developing them. A multi-disciplinary Project Development Team, using the framework provided by the *Big Sur Coast Highway Management Plan Guidelines for Landslide Management* and other planning documents, developed and evaluated alternatives to meet the project's purpose.

The team used criteria provided by the project's purpose statement and relevant planning documents to develop and evaluate alternative solutions. Criteria used were:

- Highway reliability and dependability
- Safety
- Design standards
- Cost to construct and maintain
- Time to completion
- Avoidance and minimization of environmental, social, and economic impacts.

The team's work concluded with two build alternatives (below), the No-Build Alternative, and multiple alternatives that were considered and withdrawn from further consideration.

- Alternative 1: proposes to build a bridge at Pitkins Curve and a rock shed at Rain Rocks.
- Alternative 2: proposes to build a bridge at Pitkins Curve and continue with active management at Rain Rocks.

- For purposes of comparison, pursuant to the California Environmental Quality Act, the No-Build Alternative is also presented.

Final selection of an alternative will not be made until after the full evaluation of environmental impacts, full consideration of public hearing comments, and approval of the final environmental document.

1.4.1 Alternatives Development Process

Alternatives were considered and promoted or withdrawn using the Coast Highway Management Plan's "Guidelines for Landslide Management." These guidelines discuss three basic strategies to address highway repair in landslide-prone areas: 1) Relocate or Separate, 2) Stabilize, and 3) Manage and Protect.

Relocate or Separate

This strategy involves moving the highway away from the landslide. This can be accomplished either by realigning the highway away from the landslide or through construction of viaducts, bridges, and tunnels. Relocation moves the highway away from the landslide and allows the natural landslide processes to continue without interference.

Stabilize

This strategy uses techniques to stabilize the landslide in place. Stabilization techniques include buttresses, retaining walls, crib walls, shoreline armor, anchor bolts, and reinforced earth embankments.

Manage and Protect

Management and protection strategies are used to reduce the likelihood of a large landslide, but slopes may continue to move at a more gradual and controlled pace. Management involves slowing or stopping landslide movement by balancing the landslide's resisting and driving forces. Examples of this strategy include removing soil from the top of a slide or reinforcing a slope to slow its downward movement. Protection involves the placement of physical barriers to shield travelers from falling rocks and soil. Examples of protection are rock sheds, rockfall fences, and earthen berms.

1.4.2 Build Alternatives

Two build alternatives are under consideration. The build alternatives are:

Alternative 1

Alternative 1 would build a bridge at Pitkins Curve and a rock shed at Rain Rocks. See Figure 1-4.

Alternative 2

Alternative 2 would build a bridge at Pitkins Curve and continue with active management at Rain Rocks. See Figure 1-5.

1.4.2.1 Common Features of the Build Alternatives

Both Alternative 1 and 2 include the following features:

- Roadway alignment: Alternatives 1 and 2 propose to straighten the existing road alignment and construct a 160-meter (525-foot) -long, two-lane bridge at Pitkins Curve to span the extent of the landslide there. The bridge implements the Coast Highway Management Plan landslide strategy of relocating the highway away from the slide, thus allowing the natural landslide processes to proceed without interference. Straightening the existing alignment would also move the roadway away from the slope instabilities, eliminating the need for a rockfall catchment ditch and berm. This strategy would minimize maintenance activities and soil stockpiling needs at the site.

- Bridge: The Pitkins Curve site allows for a standard type of bridge (for example a three-span arch, single-span arch or conventional type) or other, alternative type of bridge to be built[3]. Refer to Figure 1-6 for sketches of standard bridge types.

- Roadway width: Throughout the project limits, the highway would provide two 3.6-meter (12-foot) -wide lanes and 1.2-meter (4-foot) -wide outside shoulders. The shoulder width is less than the standard 2.4-meter (8-foot) width and requires a design exception. The exception was pursued, and has been approved.

- Right-of-way: All work would be conducted in the existing Caltrans right-of way and 1.75 hectare (4.25 acres) of State Parks land identified for purchase by Caltrans.

- Utilities: Two existing telephone poles would be relocated during construction with ultimate placement in conduits across or through the proposed structure(s).

[3] Bridge type selection will be made during the project design phase and in consultation with agency and community representatives, as described in Section 2.1.4.

- Construction: The proposed bridge and rock shed would be very large structures and building them would be involved and challenging. Construction would require excavation, soil disposal, and restriction of traffic to one lane through the project limits with occasional nighttime road closures, transport of large amounts of construction materials and heavy equipment, and increased noise and dust. Refer to Section 2.4: Construction Impacts, for additional detail.

1.4.2.2 Unique Features of the Build Alternatives

Alternative 1: Bridge and Rock shed

In addition to the bridge at Pitkins Curve, Alternative 1 proposes a 73-meter (240-foot) -long, two-lane rock shed structure immediately south of the bridge, at the northern chute of Rain Rocks. The rock shed implements the Coast Highway Management Plan landslide strategy of protecting the highway from the rockfall and allows the natural rockfall processes to proceed without interference.
A rock shed is a robust concrete structure with a thick slanted roof built up against the hillside and over the roadway. On the ocean side, columns support the roof and provide a partial view of the ocean. The project site allows for construction of a standard or for an alternative type of rockshed to be built.[4] Refer to Figure 1-6 for a sketch of a typical rock shed.

The roadway through the rock shed would provide two 3.6-meter (12-foot) -wide lanes and 1.2-meter (4-foot) -wide outside shoulders. Lighting would be included in the rock shed. All of the existing cable mesh and about half of the rock netting would be removed from the Rain Rocks slopes with this alternative.

The estimated construction cost of Alternative 1 ranges from $26, 500,000 to $35,600,000.

Construction of the bridge and rock shed would substantially reduce the need for regular roadway maintenance and associated traffic disruption. It would eliminate the risk to highway workers of working in the active rockfall area and eliminate the risk of catastrophic failure, extensive road closures, and environmental and economic

[4] Rock shed type selection will be made during the project design phase and in consultation with agency and community representatives, as described in Section 2.1.4.

costs. Minor periodic maintenance would still be required, however, and its cost, escalated[5] over the life of the project[6], is estimated to be $1,700,000.

Alternative 2: Bridge

Alternative 2 proposes to build only a bridge at Pitkins Curve. With this alternative, no change would be made to the existing situation at Rain Rocks. All of the cable mesh and rock netting would remain in place and routine maintenance would continue. The estimated cost of construction for this alternative ranges from $16,200,000 to $19,209,000. Annual routine maintenance (including regular soil removal and periodic replacement of cable and rock netting), escalated[7] over the life of the project[8], is projected to be $9,000,000.

Construction of the bridge would eliminate the risk for highway workers of working in the active rockfall area at Pitkins Curve. It would also eliminate the risk of extensive road closure due to catastrophic failure at this location. The need for regular road maintenance and traffic disruption would also be substantially reduced. This alternative does not reduce the risk to highway workers, or of catastrophic failure at Rain Rocks because this alternative does not propose changes to the existing situation at that location.

1.4.3 No-Build Alternative

The No-Build Alternative would leave the Pitkins Curve/Rain Rocks section of Highway 1 as it is currently. Routine maintenance would continue to clean out landslide material from behind the berms and transport it to stockpile sites. Cable and rock netting would need to be replaced every ten to thirteen years. Routine costs are expected to remain similar to what is currently spent and escalated[5] costs are estimated to be $10,700,000 over the fifty-year period that represents the life span of the structures proposed in Alternatives 1 and 2.

When a catastrophic landslide occurs, the roadway would be closed until repairs could be undertaken. Caltrans' alternatives for restoring the highway, in the event of a future catastrophic failure, are extremely constrained at Pitkins Curve/Rain Rocks. The road could be closed for an extensive period. Immense excavation of the adjacent

[5] Escalated costs were calculated using a 3% annual inflation rate.
[6] The life span of the project is considered to be 50 years.
[7] Escalated costs were calculated using a 3% annual inflation rate.
[8] The life span of the project was considered to be 50 years.

hillside could be required to reestablish the highway. During emergency highway restoration, ensuring public safety could take precedence over minimizing environmental impacts. Highway worker activities must be performed using extraordinary safety precautions. Cost to restore the highway in the event of a catastrophic failure is estimated to be in excess of $45,000,000. This alternative does not offer any improvement to the existing situation nor does it meet the purpose of the project.

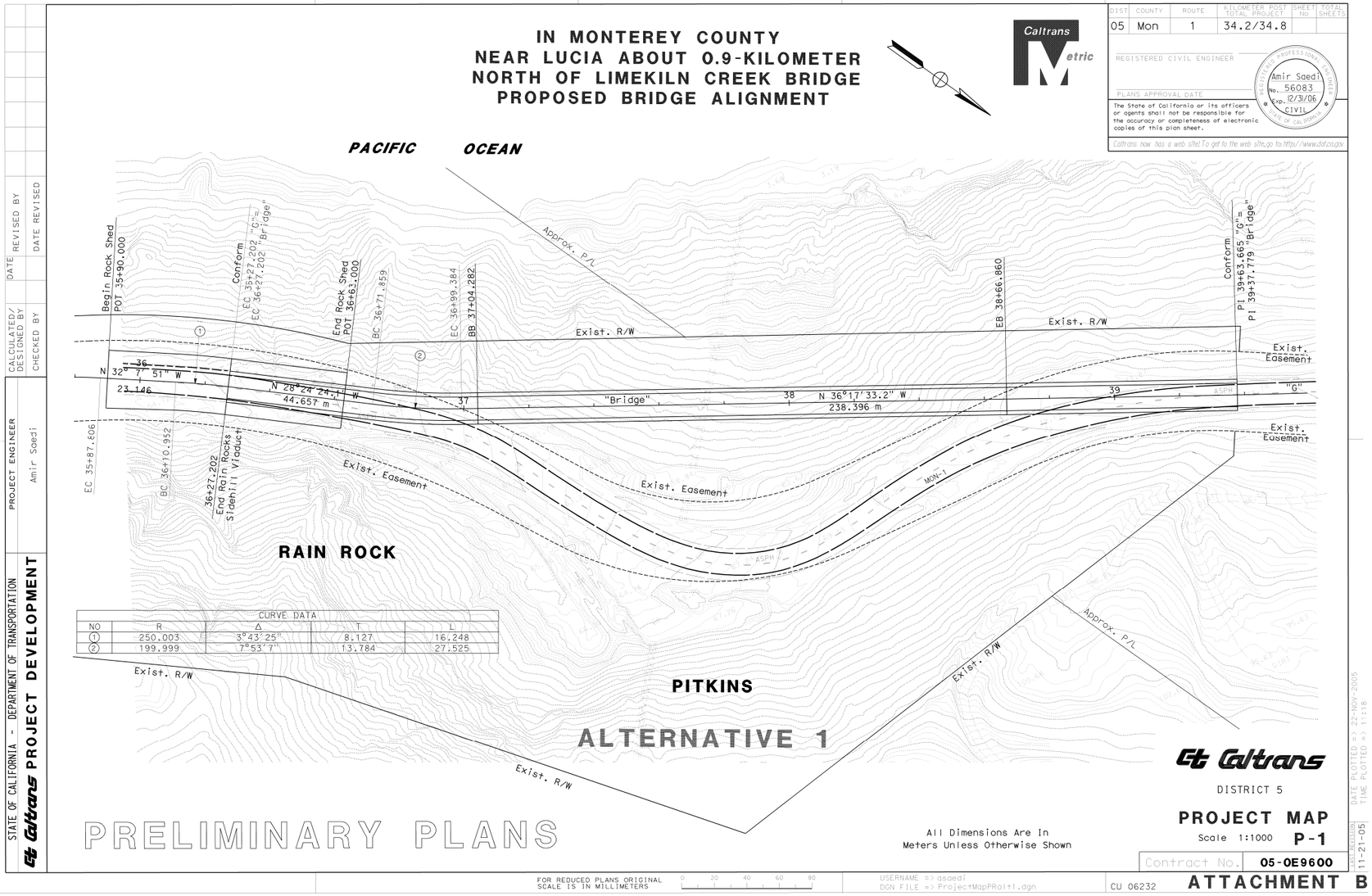

Figure 1-4 Alternative 1: Bridge and Rock Shed

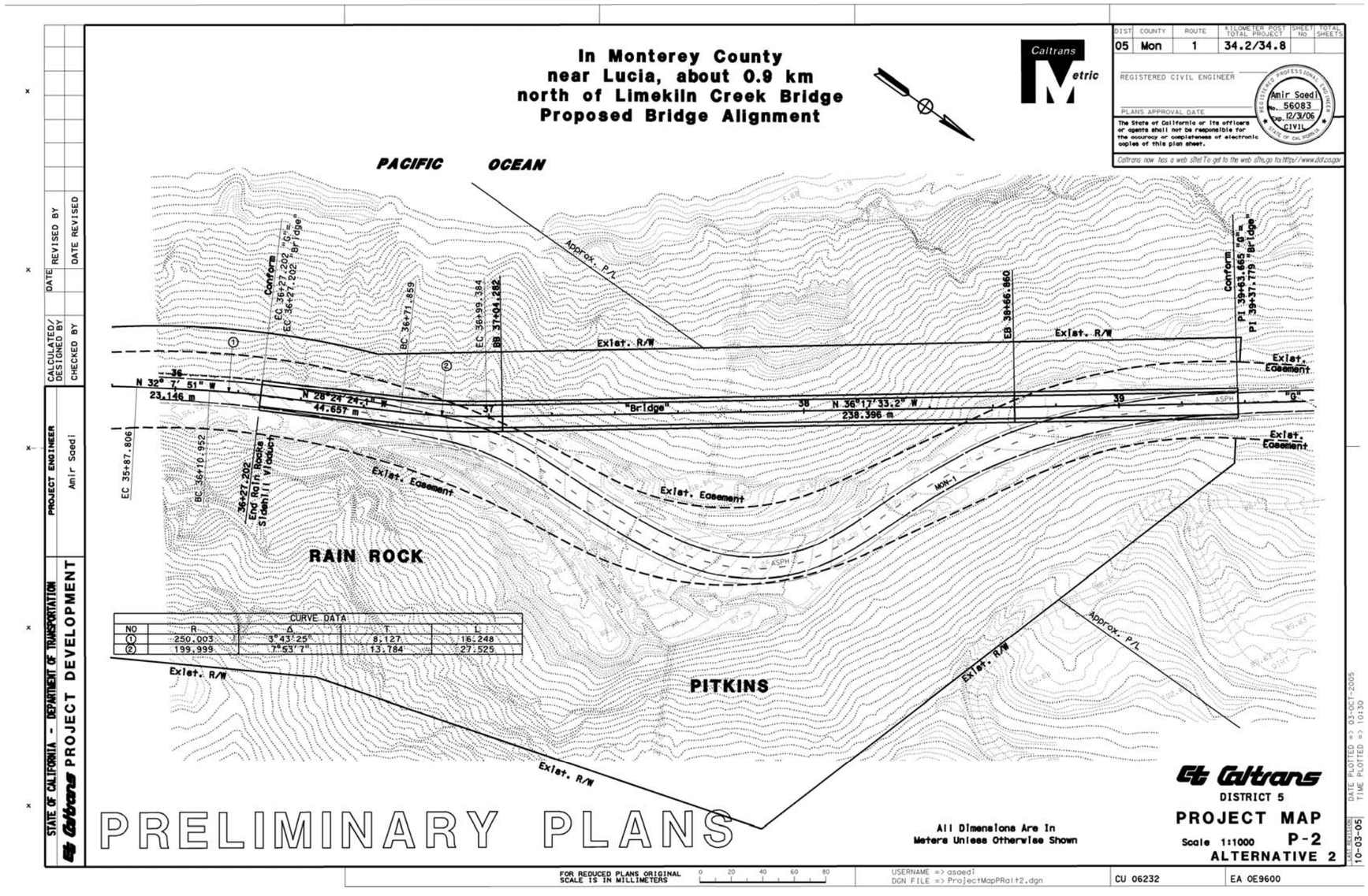

Figure 1-5 Alternative 2: The Bridge

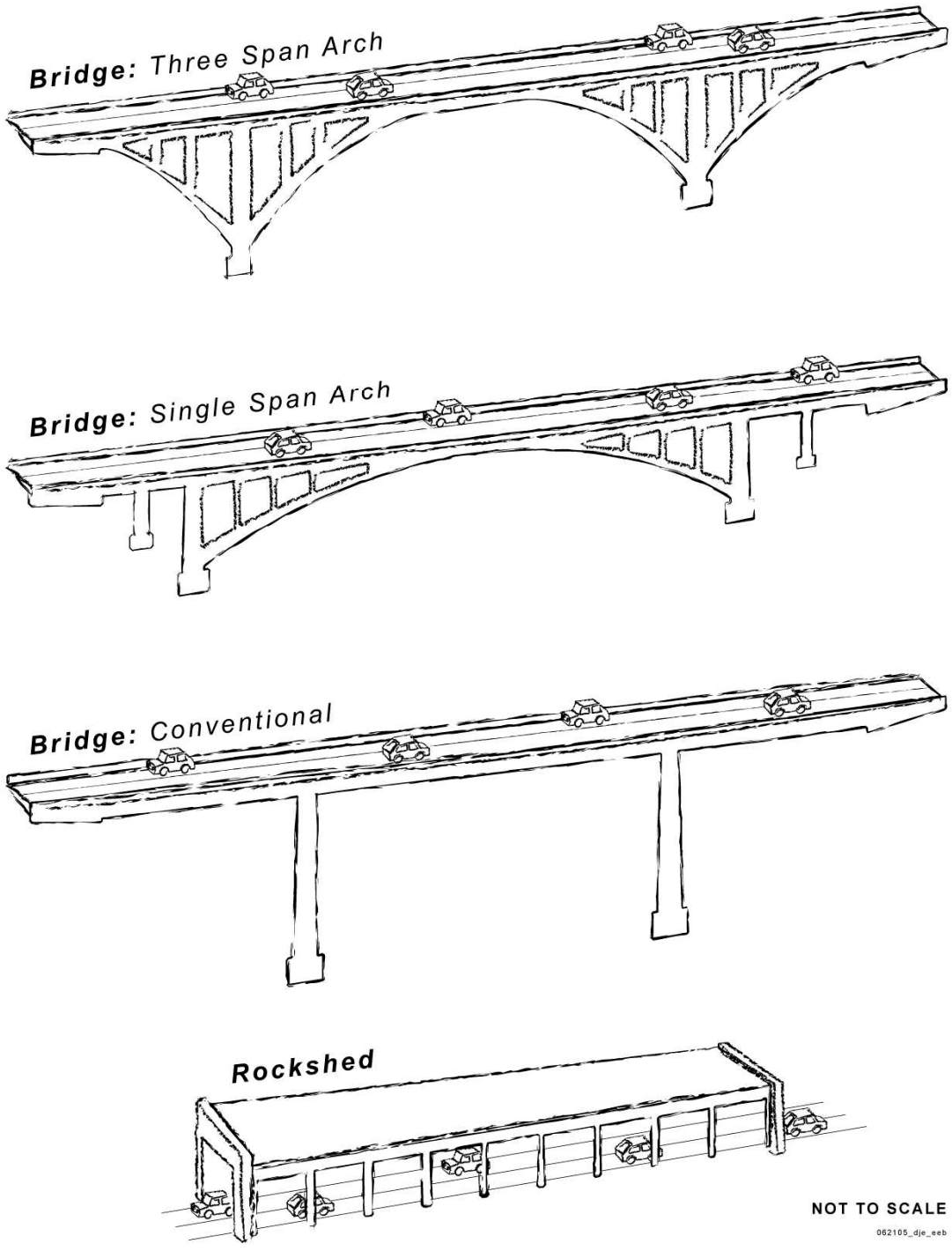

Figure 1-6 Bridge Types and Rock Shed

1.4.4 Comparison of Alternatives

Table 2. Summary of Project Comparison Criteria and Effects by Alternative[9]

Comparison Criteria		Alternative 1	Alternative 2	No-Build Alternative
Safety		Provides substantially improved protection to highway workers throughout the project limits.	Provides substantially improved protection to highway workers at Pitkins Curve. Does not improve protection to highway workers at Rain Rocks.	No additional protection provided.
Reliability		Provides most reliable highway facility at Pitkins Curve and Rain Rocks. Landslide would be bypassed and the highway would be protected from rockfall.	Provides a reliable highway facility at Pitkins Curve by bypassing the landslide. There would be no change to the highway at Rain Rocks. Active management strategies would continue to perform annual maintenance and emergency response to unexpected rockfall and would require road closures and restrictions.	Active management strategies would continue to require annual maintenance and emergency response to unexpected landslides and rockfall. Regular and unexpected extensive road closures and restrictions would continue.
Design Standards		Meets design standards.	Meets design standards in location of bridge. Rain Rocks location would not be changed from current dimensions.	Does not meet design standards.
Time to Construct		4.5 years	4.0 years	N/A
Cost	**Current Cost**	$26.5 to 35.6 million	$16.2 to 19.2 million	N/A[10]
	Maintenance Costs[11]	$1.7 million	$ 9.0 million	$ 10.7 million

[9] Comparison criteria and potential impacts that have been highlighted in yellow are those that differ by alternative.

[10] In the event of a catastrophic failure the cost to restore the highway is estimated to be in excess of $45,000,000.

[11] Maintenance activities include annual removal of soil and regular replacement of cable/rocknet. Costs were based on the last six years of actual maintenance expenditures and escalated for the estimated life span of the project, which is 50 years, using a 3% annual inflation rate. Does not include cost of highway restoration in the event of a catastrophic failure. (See footnote 11).

Comparison Criteria		Alternative 1	Alternative 2	No-Build Alternative
Land Use 2.1		1.75 hectares (4.25 acres) of California State Park land is included in the project area. Caltrans identified this land, as a result of 2002 emergency highway restoration, for purchase to use as highway right-of-way. Purchase pending.	1.75 hectares (4.25 acres) of California State Park land is included in the project area. Caltrans identified this land, as a result of 2002 emergency highway restoration, for purchase to use as highway right-of-way. Purchase pending.	1.75 hectares (4.25 acres) of California State Park land is included in the project area. Caltrans identified this land, as a result of 2002 emergency highway restoration, for purchase to use as highway right-of-way. Purchase pending.
Coastal Zone 2.1.1	**Local Coastal Program**	While this alternative presents both conflict and consistency, on balance the project is consistent with the local coastal plan.	While this alternative presents both conflict and consistency, on balance the project is consistent with the local coastal plan.	The No-Build Alternative is in conflict with the local coastal plan because it does not act to facilitate public access to the coast.
	California Coastal Act	While this alternative presents both conflict and consistency, on balance the project is consistent with the California Coastal Act.	While this alternative presents both conflict and consistency, on balance the project is consistent with the California Coastal Act.	The No-Build Alternative is in conflict with the local coastal plan because it does not act to facilitate public access to the coast.
Traffic & Transportation/ Pedestrian & Bicycle Facilities 2.1.3		Improves reliability and safety of the highway. Provides improved facilities for non-motorized travel. Does not preclude future development of trails.	Improves reliability and safety of the highway. Provides improved facilities for non-motorized travel. Does not preclude future development of trails.	No change
Visual/Aesthetics 2.1.4		Addition of rock shed to state scenic highway would result in significant impacts to the aesthetic qualities of the Big Sur coast. *Mitigation proposed*.	Addition of bridge to state scenic highway would not substantially change the aesthetic qualities of the Big Sur coast. *Avoidance and minimization measures proposed*.	No change
Natural Communities 2.3.1		Removes approximately 0.4 hectare (1.0 acre) of coastal sage scrub. *Minimization measures proposed*.	Removes approximately 0.4 hectare (1.0 acre) of coastal sage scrub. *Minimization measures proposed*.	No anticipated impact

Comparison Criteria		Alternative 1	Alternative 2	No-Build Alternative
Wetlands/ other Waters 2.3.2	U.S. Army Corps	No impacts	No impacts	No impact
	Other Waters of U. S.	Less than 0.01 hectare (0.01 acre) of unvegetated seeps and springs would be redirected. *Minimization measures proposed.*	Less than 0.01 hectare (0.01 acre) of unvegetated seeps and springs would be redirected. *Minimization measures proposed.*	No impact
	Coastal Zone	No impacts are anticipated to wetlands under jurisdiction of the local coastal program. *Minimization measures proposed*.	No impacts are anticipated to wetlands under jurisdiction of the local coastal program. *Minimization measures proposed*.	No impact
Threatened/Endangered Species 2.3.4		No effect to threatened or endangered species. *Avoidance and minimization measures proposed.*	No effect to threatened or endangered species. *Avoidance and minimization measures proposed.*	No impact
Construction 2.4	Excess Material	Alternative would result in 11,000 cubic meters of excess material.	Alternative would result in 22,000 cubic meters of excess material.	Up to 100,000 cubic meters of excess material from unpredictable landslide and rockfall. Between 10,000 and 30,000 cubic meters of excess material from annual routine maintenance.
	Traffic	Restriction of roadway to one lane on non-holidays during non-summer months for duration of construction. Nighttime full closures. Traffic flow impacts from scheduled increased heavy equipment traffic. *Avoidance and minimization measures proposed.*	Restriction of roadway to one lane for about a month. Nighttime full closures. Traffic flow impacts from scheduled increased heavy equipment traffic. *Avoidance and minimization measures proposed.*	Unscheduled and potentially extensive full lane closures and lane restrictions due to landslides and rockfall. Occasional regular closures and traffic disruption due to annual maintenance cleanup activities.
	Duration	Approximately 922 working days, equaling about 4.5 years.	Approximately 822 working days, equaling about 4.0 years.	On-going

Comparison Criteria		Alternative 1	Alternative 2	No-Build Alternative
	Noise	Increased noise at construction site. Increased noise (of 1 dBA) would be imperceptible at nearby sensitive receptors. *Avoidance and minimization measures proposed.*	Increased noise at construction site. Increased noise (of 1 dBA) would be imperceptible at nearby sensitive receptors. *Avoidance and minimization measures proposed.*	Increased noise at construction site. Increases of 1 dBA from unscheduled and annual maintenance activities would be imperceptible at nearby sensitive receptors.
	Water Quality	Potential for suspended solids, dissolved solids, and organic pollutants to be introduced into the ocean. *Avoidance and minimization measures proposed.*	Potential for suspended solids, dissolved solids, and organic pollutants to be introduced into the ocean. *Avoidance and minimization measures proposed*.	Potential for suspended solids, dissolved solids, and organic pollutants to be introduced into the ocean.
	Air Quality	No exceedances anticipated.	No exceedances anticipated.	No exceedances anticipated.
	Site Appear-ance	Temporary impacts from earth movement, distracting activities, and storage of equipment and materials. *Avoidance and minimization measures included.*	Temporary impacts from earth movement, distracting activities, and storage of equipment and materials. *Avoidance and minimization measures included.*	Permanent impacts from earth movement, distracting activities, and storage of equipment and materials.
	Cultural	No effect anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No effect anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No impact
	Paleon-tology	No effect anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No effect anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No impact
	Haz Waste	No effect anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No effect anticipated. *Avoidance and minimization measures included in event of unanticipated discovery.*	No impact
Cumulative Impacts 2.1.4		Alternative 1 has been considered with other projects in the area for its potential to contribute to cumulative impacts. Addition of bridge and rock shed would contribute to cumulative visual impacts. *Minimization measures proposed.*	Alternative 2 has been considered with other projects in the area for its potential to contribute to cumulative impacts. Addition of bridge would contribute to cumulative visual impacts. *Minimization measures proposed.*	Not applicable

1.4.5 Alternatives Considered and Withdrawn

In addition to the two alternatives under consideration, six more were developed[12], considered, and ultimately withdrawn from consideration. These alternatives are described below and the reasons for withdrawing them from further consideration are presented.

Relocate or Separate

Tunnel

Using the strategy of separating the highway from the landslide, a tunnel was considered as an alternative solution at Pitkins Curve/Rain Rocks. It would have required a tunnel of at least 450 meters (1,500 feet) in length, stretching from the Limekiln Bridge to beyond Pitkins Curve. To build the tunnel, the highway would have been realigned for the full length of the tunnel and slightly beyond. Major retaining structures above the roadway at the tunnel entrance and exit were expected. An estimated 765,000 cubic meters (1,000,000 cubic yards) of rock and soil were expected to be generated from excavation for the tunnel. Impacts associated with disposal of the large amounts of material were anticipated. In addition, impacts to the campground at Limekiln Creek, as well as to threatened and endangered species, wetlands, and cultural resources were anticipated. Loss of a quarter mile of views to the ocean was also anticipated. Construction costs were estimated at between $73 and $100 million. Construction duration was projected to be over five years. This alternative was withdrawn from consideration because of the difficulty of construction, high cost, potential for significant visual impacts, and impacts to recreation, cultural, and biological resources.

Stabilize

Using the strategy of stabilizing the landslide, alternatives to realign the highway, construct a retaining wall, or construct a reinforced embankment were considered.

Realign Highway Inland

The alternative to relocate the highway inland, away from the landslide, was considered at Pitkins Curve. This alternative would have required moving the highway alignment inland and cutting the slope back to the top of the ridgeline, effectively removing the entire slide above the roadway. The slide below the roadway

[12] The three basic strategies to address highway repair in landslide-prone areas: 1) Relocate or Separate, 2) Stabilize, and 3) Manage and Protect, as presented in the Coast Highway Management Plan *Guidelines for Managing Landslides* (and discussed above in Section 1.4.1: Alternatives Development Process), were used to develop these alternatives.

would remain, however, and would continue to have potential to undermine the ultimate alignment. This alternative would have generated an estimated 380,000 cubic meters (500,000 cubic yards) of rock and soil that would need to be trucked from the project site. Environmental impacts and traffic disruption during construction would have been among the greatest of all alternatives considered and the alternative was ultimately withdrawn from consideration.

Retaining Wall and Reinforced Embankment

The alternatives of building either a retaining wall or reinforcing the embankment below the roadway were considered at Pitkins Curve to buttress the roadway and isolate it from the landslide. The wall would have been an estimated 18 meters (55 feet) high and 90 meters (300 feet) long. A reinforced embankment would have involved removing the entire landslide below the roadway and reconstructing the slope with imported and stockpiled soil; gradually rebuilding the embankment upwards by compacting the soils and reinforcing them with geo-textiles. Both these stabilization efforts would have included the construction of a substantial catchment ditch for rockfall and rockslides that would continue to occur above the roadway.

Current conditions suggest that the stabilization strategies would not be permanent solutions, but would require further reconstruction as the landslide above the roadway moved downward. Construction cost for either alternative was estimated at $5 million dollars; annual maintenance costs were estimated at $1 million. This alternative was withdrawn from consideration because it could not be considered a long-term or permanent solution.

Manage and Protect

Place Rock Net Above Pitkins Curve

Using the strategy of managing the landslide and protecting the highway users, an alternative was considered which would place rock net or cable mesh at Pitkins Curve. This alternative was withdrawn because the slope above Pitkins Curve is too unstable to allow anchoring of these protective devices.

Continuous Rock shed

Using the strategy of protecting the highway users, a rock shed that would cover the roadway the entire length of the project (from Rain Rocks to beyond Pitkins Curve) was considered. The alignment would have been required to hug the slope, necessitating tight curves and 25 mile per hour speeds within the rock shed. The continuous rock shed would be supported by a down-slope retaining wall. The total

length of the continuous rock shed and retaining wall was estimated to be approximately 215 meters (700 feet) long; the retaining wall would be 7.6 meters (25 feet) high. Construction costs were estimated at $25 million; routine maintenance would be minimal. This alternative was ultimately withdrawn because the alignment would have limited the sight distance within the rock shed, causing unsafe driving conditions.

1.4.6 Transportation Systems Management

Transportation System Management strategies consist of actions that increase the efficiency of existing roads; they are actions that increase the number of vehicle trips a roadway can carry without increasing the number of through lanes. Examples of Transportation System Management strategies pertinent to the Big Sur Coast Highway include auxiliary and turning lanes. Transportation System Management also encourages automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements of a unified transportation system. Modal alternatives integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail, and transit.

Transportation System Management is not applicable to this project's location, purpose, or need.

1.5 Permits and Approvals Needed

Permits, reviews, and approvals required for project construction are shown in Table 3.

Table 3. Permits and Approvals

Agency	Permit/Approval
Federal Highway Administration	Approval of Project Funding
Monterey County	Local Coastal Development Permit
U. S. Army Corps of Engineers	Section 404 Nationwide Permit
Regional Water Quality Control Board	401 Water Quality Certification

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This chapter describes the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project and potential impacts from each of the alternatives.

The environmental study area defined for this project included the maximum area that could be affected by all project alternatives. It included the area needed to construct the project, roughly outlined by the ridgeline above the roadway limits and the coastline below. Additionally, it included all locations within the existing highway right-of-way that could potentially be used for construction staging, and vehicle and equipment storage within a mile north of the actual bridge and/or rock shed location. Refer to Figure 2-1.

As part of the scoping and environmental analysis conducted for the project, the following environmental resources were considered, but no potential for adverse impacts to these resources was identified. Consequently, there is no further discussion regarding these resources in this document:

- **Land Use:** Approximately 1.7 hectares (4.25 acres) of land, which is currently part of Limekiln State Park would be included in the construction area as part of this project. This land was included as part of the 2000-2002 emergency highway restoration work and ultimately identified for purchase by Caltrans as "post certification work." Caltrans is currently negotiating with State Parks to purchase the land. Refer to Section 2.1.1.4 for further discussion. No additional conversions are anticipated with this project.
- **Wild and Scenic Rivers:** No wild and scenic rivers exist within the project area.
- **Growth**: Construction of the project is not expected to shift the pattern of development or induce additional development beyond that included in the Monterey County General Plan.

- **Farmlands/Timberlands:** No farmlands or timberlands are present in the project limits.
- **Community Impacts:** No minority or low-income populations have been identified that would be adversely affected by the proposed project. This project is not subject to provisions of Executive Order 12898.
- **Cultural Resources:** There are no eligible prehistoric or historic archaeological resources within the project area. There are no impacts to properties eligible for listing on the National Register of Historic Places (Negative Historic Property Survey Report, August 23, 2002).
- **Hydrology and Floodplain:** The project does not encroach upon the 100-year flood plain; no floodplain impact would occur with the project (Federal Emergency Management Agency Flood Rate Insurance Map, Monterey County).
- **Water Quality and Storm Water Runoff:** The major water body in the project area is the Pacific Ocean. By incorporating proper and accepted engineering practices and best management practices, the project would not impact water quality. Refer to Section 2.4: Construction Impacts for further discussion.
- **Paleontology:** The project is not expected to encounter paleontological resources (Paleontological Technical Report August 11, 2004).
- **Hazardous Waste/Materials:** The project area was investigated for potential involvement with aerially deposited lead, structures with lead-based paint and asbestos-containing materials, and hazardous materials. The study found no evidence that the project would encounter any hazardous materials (Initial Site Assessment for Hazardous Waste, November 27, 2001).
- **Air Quality:** There will be no increase in traffic volumes or speeds with the proposed project and, therefore, no increase in long-term air emissions. (Air Report, May 2005). Refer to Section 2.4: Construction Impacts for further discussion.
- **Noise:** There will be no increase in traffic volumes with the proposed project and, therefore, no increase in long-term noise levels. (Noise Report, May 2005). Refer to Section 2.4: Construction Impacts for further discussion.

Figure 2-1 Project Environmental Study Area (outlined in yellow)

2.1 Human Environment

2.1.1 Consistency with State, Regional and Local Plans

2.1.1.1 Regional Transportation Plan for Monterey County

The 2006 Regional Transportation Plan outlines the region's goals and policies for meeting current and future transportation needs and provides a foundation for making transportation decisions. The proposed improvements to Highway 1 at Pitkins Curve and Rain Rocks project is included in and consistent with the 2002 Regional Transportation Plan for Monterey County and the 2002 cost-constrained Regional Transportation Improvement Program.

2.1.1.2 Monterey County General Plan

The project is consistent with the goals and policies of the Monterey County General Plan. The principal planning policies for the area are found in the Big Sur Coast Land Use Plan. Since the project falls in the Coastal Zone, it is regulated by the Local Coastal Program and Implementation Plan (see Coastal Zone discussion below).

Although Monterey County is updating its 1982 General Plan, the 1982 General Plan is still in effect. The 1982 General Plan promotes a safe, effective, and economical transportation system that will serve existing and future land uses and maintain and enhance a system of scenic highways without imposing undue restrictions or constricting the normal flow of traffic.

Both alternatives are consistent with the Monterey County General Plan.

2.1.1.3 Coastal Zone

Regulatory Setting

The Coastal Zone Management Act of 1972 is the primary federal law enacted to preserve and protect coastal resources. This act sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The California Coastal Act is the state's approved coastal zone management plan under the federal Coastal Zone Management Act. It includes the protection and expansion of public

access and recreation; the protection, enhancement and restoration of environmentally sensitive areas; the protection of agricultural lands and lands of scenic beauty; and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act.

Just as the federal Coastal Zone Management Act delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments (15 coastal counties and 58 cities) to enact their own Local Coastal Programs. Local Coastal Programs determine the short- and long-term use of coastal resources in their jurisdiction consistent with the California Coastal Act goals.

Monterey County developed its own Local Coastal Program, which was certified by the California Coastal Commission in 1982 and includes various certified amendments since 1982. The California Coastal Commission is currently undertaking a periodic review of the County's Local Coastal Program.

Affected Environment

Monterey County's coastal zone is divided into four distinct regions that are part of the Monterey County Local Coastal Program. The Big Sur Coast Planning Area stretches over 70 miles between Carmel and the San Luis Obispo County line. Rugged terrain, scarce water, difficult access, unstable slopes, and dangers of fire and flood limit the kinds of development that occur in the planning area. Ranching, tourism, and private residential development are the largest land uses in the planning area. The Big Sur area retains a strong and independent community identity.

Land use designations adjacent to the project area are Watershed and Scenic Conservation Lands, Rural Lands, and Public Lands.[13] Watershed and Scenic Conservation Lands provide for the protection of watersheds, streams, plant communities, and scenic values as a primary objective. Rural Lands provide for farming or grazing, tourist facilities, and private residences. The community center of Lucia, a mile and a half north of the project area, is designated Rural Lands. Public Lands include Limekiln State Park and Los Padres National Forest. The Limekiln State Park entrance is half a mile south of the project and a small portion of their land

[13] Current land use designations were identified using zoning maps for Monterey County, the Monterey County General Plan and the Big Sur Coast Land Use Plan, including the Local Coastal Program and the Implementation Plan.

is in the project area. Los Padres National Forest lands are east of the project area, beyond the ridgeline and project limits. Public Lands provide open space, recreational opportunities, and areas for resource protection.

Project Consistency with Monterey County Local Coastal Program

A discussion of the build alternatives in relation to applicable sections of the Big Sur Coast Local Coastal Plan appears in Table 4.

Table 4. Consistency with Monterey County Local Coastal Program

Policy No.	Subject of Policy	Discussion	For Further Discussion in this Document, see:
3.2	Scenic Resources	**Alternative 1** would promote restoration of the visual character of the rural landscape. This alternative introduces a unique built feature into the scenic landscape. *Mitigation recommended.* **Alternative 2** would promote restoration of the visual character of the rural landscape. This alternative introduces built features that are compatible with the highway's scenic highway designation. *Avoidance and minimization measures recommended.*	Section 2.1.4
3.3	Environmentally Sensitive Habitats	The proposed project is compatible with the long-term maintenance of environmentally sensitive habitat. While displacements of minimal amounts of native shrubs are unavoidable, they would be restored and/or replaced onsite to incur no net loss of these resources. Measures are included to avoid impacts to marine habitats. *Avoidance and minimization measures recommended*.	Section 2.3
3.4	Water Resources	The proposed project is compatible with the long-term maintenance of wetlands. No U.S. Army Corps of Engineers-regulated wetlands would be affected by any of the project alternatives. While minimal impacts to "other waters of the U.S." are unavoidable, these would be restored and/or replaced onsite to incur no net loss of wetlands. Strict erosion control and sediment control measures would be implemented during construction of the proposed project to minimize potential impacts to water quality in sensitive areas. *Avoidance and minimization measures recommended*.	Section 2.3
3.7	Hazardous Areas	Project is compatible with minimization of risks to life and property.	Section 2.2.1
4.0	Highway 1 and County Roads	**Alternative 1** is compatible with the highway's function as a recreational route. Highway upgrades are consistent with the recommended standards and preservation of coastal resources and are made with consideration of the scenic character. *Mitigation recommended.* **Alternative 2** is consistent with the maintenance and enhancement of the highway's aesthetic character and function as a recreational route. Highway upgrades are consistent with recommended standards, preservation of coastal resources, and enhancement of scenic character. *Avoidance and minimization measures recommended*.	Section 2.1.4
6.0	Public Access	Alternatives 1 and 2 improve coastal public access by increasing roadway reliability and both alternatives are compatible with recommended provisions to provide improved access for non-motorized traffic.	Section 2.1.2

Project Consistency with the California Coastal Act

A discussion of the build alternatives in relation to applicable sections of the California Coastal Act appears in Table 5.

Table 5. Consistency with California Coastal Act

California Coastal Act Policy[14]	Subject of Policy	Discussion	For Further Discussion in this Document, see:
30210	Public Access	Alternatives 1 and 2 would improve coastal public access by increasing roadway reliability. None of the proposed alternatives would interfere with existing public access. The proposed project includes improved facilities for non-motorized travel.	Section 2.1.2
30230	Marine Environment	The project would avoid marine habitat and includes stringent safeguards to ensure minimal inadvertent discharge of materials to the ocean. *Avoidance and minimization measures recommended.*	Section 2.3
30240	Environmentally Sensitive Habitat	The project would avoid environmentally sensitive habitat where practicable and enhance or replace lost habitat to ensure no net loss. *Avoidance and minimization measures recommended.*	Section 2.3
30251	Scenic Qualities	**Alternative 1** would substantially retain views to the ocean, minimize the alteration of landforms, and restore a visually degraded area. *Mitigation recommended.* **Alternative 2** would substantially retain views to the ocean, minimize the alteration of landforms, restore a visually degraded area, and would be visually compatible with and subordinate to the scenic character of the area. *Avoidance and minimization measures recommended.*	Section 2.1.4

2.1.1.4 Parks and Recreation

Affected Environment

The California Department of Parks and Recreation owns and manages lands adjacent to the highway at Limekiln State Park. The mission of the Department is to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high quality outdoor recreation.

[14] Policy numbers reference statutes in the California Public Resources Code.

Approximately 1.7 hectares (4.25 acres) of land, which is currently part of Limekiln State Park, would be included in the construction area as part of this project. This land was included as part of the 2000-2002 emergency highway restoration work and ultimately identified for purchase by Caltrans as "post certification work." Caltrans is currently negotiating with State Parks to purchase the land.

2.1.2 Utilities

Both alternatives would require removal of two existing utility poles and lines. Lines would be placed across or through the structure(s) and/or underground.

2.1.3 Pedestrian and Bicycle Facilities

Regulatory Setting

The Federal Highway Administration directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 Code of Federal Regulations 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

Caltrans and the Federal Highway Administration are committed to carrying out the 1990 Americans with Disabilities Act by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

Affected Environment

The California Coastal Conservancy has prepared a plan, at the direction of the State Legislature, to complete the "California Coastal Trail." The trail is intended to be a continuous public right-of-way along the California coastline for hiking and other non-motorized modes of transportation. Through the project area, the Pacific Coast Bike Route and the California Coastal Trail route is Highway 1. Currently bikes and pedestrians must use the narrow shoulders (ranging in width from 0.6 to 1.2 meters [2 to 4 feet]) to travel through the project area.

Impacts

The project would include uniform 1.2-meter (4-foot) -wide shoulders throughout the length of the project. This would provide a benefit to non-motorized traffic.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

2.1.4 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969 as amended establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive and *aesthetically* (emphasis added) and culturally pleasing surroundings [42 U.S. C. 4331(b)(2)]. To further emphasize this point, the Federal Highway Administration, in its implementation of the National Environmental Policy Act [23 U.S.C. 109(h)], directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others the destruction or disruption of aesthetic values.

Likewise, the California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities." [CA Public Resources Code Section 21001(b)].

The Monterey County Local Coastal Program provides for the preservation of the incomparable beauty of the Big Sur country. It specifies that all development must harmonize with and be subordinate to the wild and natural character of the land, and should remain within the small-scale, rural values of the area, rather than introduce new or conflicting uses. It is the County's objective to preserve the Big Sur Coast scenic resources in perpetuity and to promote the restoration of the natural beauty of visually degraded areas wherever possible. The County's Viewshed Policy essentially prohibits all new construction if visible from Highway 1, with the exception of road capacity, safety, and aesthetic improvements; provided these projects enhance the highway's aesthetic beauty and protect its primary function as a two-lane recreation route, include walking and bicycle trails wherever feasible, and maintain the highest possible standard of visual beauty and interest.

The Coast Highway Management Plan was undertaken, in part, to foster a corridor-wide understanding of the aesthetic values along the Big Sur coast and to provide guidance in managing scenic resources. The Coast Highway Management Plan Guidelines for Corridor Aesthetics outlines some primary areas of local concern regarding the corridor's visual setting: These are:

- The essential character of Highway 1 is that of a functional highway that passes through a unique and spectacular landscape.
- The true historic character of the corridor is worthy of preservation. Leaving the corridor essentially as it is would better honor this character than converting it to a sanitized scenic highway experience or theme park.
- The highway is not homogeneous in character; it passes through a series of different environments, each with distinct characteristics and individual themes.
- Uniformity of roadside features should be avoided, as it would conflict with recognizing the varied and distinct characteristics along the corridor.
- The needs of one stakeholder group should not be disproportionate to others. Accommodating needs of visitors should not outweigh the desires and needs of the local community for whom the highway is a central feature of daily life, and visa versa.
- For decades, the local community has accepted and encouraged a measure of eclecticism and expressions of individuality and craft in features such as mailboxes, private signs, and small structures.
- Although diversity in roadside features is valued, increasing clutter is a serious concern. This is most evidenced in commentary regarding unnecessary, redundant, or poorly designed signs and visually intrusive overhead utilities.

The *Guidelines for Corridor Aesthetics* element of the Coast Highway Management Plan specifically addresses the construction of new bridges (and major new structures such as rock sheds) as follows:

Any new bridges along this coast must complement the architecturally significant historic bridges in the corridor. These bridges are internationally recognized for their architectural style and engineering excellence and for the continuity established by

the use of a common design theme: the concrete arch spandrel. The character of these bridges is a major contributor to the historic character of the highway corridor. The intent of these guidelines is to ensure that new bridges complement this character by balancing respect for historic design themes with the best of contemporary structural expression.

- Any new bridges should be authentic in design, rather than emulate something they are not, i.e., historic bridges. At the same time, structural designers should recognize historic bridges for the quality of aesthetic and engineering excellence they represent and strive to match or exceed this quality in contemporary terms.
- In the interests of overall continuity, designers should first consider bridge types that are in the same visual family as the historic bridges: arched or arch-like main span structures below deck level and made of concrete.
- In designing the alignment of a new bridge, designers should allow the roadway's geometry (plan and profile) to flow smoothly over the bridge, not necessarily limiting the alignment to a tangent (or straight) geometry.
- To maintain the visual continuity of the existing roadway, the width of new bridges should match the width of the approaching roadways, including shoulders, as closely as possible. As with roadway shoulder widths, the desired aesthetic for structures would support the concept for a 32-foot roadbed, subject to site-specific considerations and with consideration for appropriate exceptions from the 40-foot standard.
- New bridges must include an appropriate rail for safety of motorists, cyclists, and pedestrians; the rail type should be visually compatible with the open concrete balustrade rail seen on historic bridges.

The *Roadway Protection Systems* section of the Guidelines for Corridor Aesthetics states that, "Preference for type and material selection on protective systems (e.g., rockfall protection) would be given to those that are visually subordinate to the landscape, to the extent possible. Field installation details and the industrial design of system components would also emphasize visual compatibility. For larger protective structures such as rock sheds, recommendations on aesthetic design for bridges should feature aesthetic and engineering design excellence."

Affected Environment

The project is located within the southern region of the Big Sur coast, and the visual character of the project vicinity includes steep, rugged slopes alternating with well-vegetated ravines and natural drainages. The highway alignment is curved within the vicinity of the project, as it is for several miles to the north and south.

The landform varies within the project limits. The southern section of the project area appears as a massive rock-formed ridge that extends steeply up from the ocean. The topography of the middle portion of the project is a slightly bowl-shaped ravine, caused by landslide activity over the years. The hillside at the northern end of the project is more stable and less rocky in appearance than the middle and southern ends of the project. The roadway alignment curves inland as it follows the varied topography of the project site.

The Limekiln Bridge and the Rain Rocks viaduct are within close proximity to the southern end of the project. The existing road alignment limits side-views of these two structures, and as a result, the majority of viewers know them only by their bridge railing and deck surfaces. Extensive “rock-net drapery,” resembling chain-link fence fabric, has been installed on the rocky slopes above the highway immediately south of the project. No residential or commercial structures are within proximity of the project site. Limekiln campground is approximately one-quarter mile south of the project.

Coastal chaparral is the primary vegetative cover in the project vicinity. Medium to small shrubs and grasses are found throughout the project limits, however the most unstable and rocky slopes are relatively barren and lack vegetative cover. Although no trees are on site, several can be seen on the upper elevations of slopes adjacent to the project.

Existing Visual Quality

The visual quality of the project site is high. From this location, the view quality is due mostly to the elevated viewing position above the ocean, and the view of the steep topography as it descends to the shoreline to the north and south. The site is one of the more rugged appearing locations along the highway because of its history of landslides and rockfalls. Within the project limits, vegetation is somewhat sparse and doesn’t contribute greatly to the visual quality. The visual character of the immediate project site is largely defined by the perception and awareness of the dynamic forces of nature in the landscape. The components that make up the view are visually strong,

and the character is a bold combination of towering rock cliffs, sheer drop-offs to the crashing surf line, and the vast Pacific Ocean as far as the eye can see. The quality of the view at the project site is somewhat reduced by the landslide scarring and required on-going maintenance efforts.

The visual experience of traveling the Big Sur coast is influenced by a variety of historic features. Seven historic bridges, built in the 1930s and important examples of the engineering technology and aesthetic preference of the era, are found along a 65-kilometer (41-mile) stretch of the coast highway. These bridges share a common design; each is an open-spandrel concrete arch structure with open bridge rail. Other historic elements seen by the highway traveler include original highway features constructed of rock masonry, such as parapet walls, culvert headwalls, and drinking fountains.

In addition to the historic structures, many other built elements contribute to the visual character of the highway experience. Bridge rails are noticeable components of both historic and non-historic structures. The railings of the coastal bridges are important in their ability to define the architectural style of structures, as well as their potential effect on ocean views. Open style railing is associated with older structures and design, while the railing constructed since the 1970s is typically solid.

There is no single design style evident in the highway features (such as bridges, rails, barriers, walls, drainage inlets and downdrains, signage, and other elements) along the Big Sur corridor. Rather, the style and variety of features appears to be a factor of engineering practices of the day and funding availability rather than a uniform aesthetic theme. There is a tendency towards natural material construction and finishes such as wood and stone. Metal finishes, where used, are often weathered in appearance.

The existing visual quality of Highway 1 in the project area is high, due primarily to the presence of natural vegetation, the topographic relief, ocean views, and the minimal visibility of built elements. The project is within the southern Big Sur area, which tends to have less tree cover and generally appears more rocky and steep than the northern section of the coast. The major visual detractors within the project vicinity are the scarring caused by landslides, the on-going maintenance activities required to keep the road clear of landslide debris, rock netting on the cut slopes, the utility poles, and the solid railing on the existing viaduct and bridge.

The primary affected viewers are those who travel the highway and are in the immediate vicinity of the project. Viewers through this area generally have high expectations regarding scenic quality and the state and federal scenic designations further heighten viewers' sensitivity along this route.

Impacts

Photo simulations were prepared to assess the potential impacts from each alternative, and to illustrate general landform and structure appearance. Photo simulations are presented following page 57. Specific design details are not included in the simulations and will be the product of subsequent design and review. The simulations are intended to show a reasonable representation of the project, and to illustrate the estimated scale and form of any proposed features and their relationship to the setting. The photo-simulations were prepared showing the project setting soon after construction.

This project would result in a substantial alteration of the visual environment. The inherent change associated with introducing two large structures into this mostly natural environment would affect the character of the project setting.

The Bridge

Bridges and viaducts are somewhat common features along the Big Sur Coast, and the proposed Pitkins Bridge would not seem out of character to viewers traveling Highway 1. As seen from the highway, views of the bridge structure would be somewhat limited. The road alignment north and south of the bridge won’t allow full “side views” of the structure, and most views from the highway would be at acute angles. The greatest opportunity for viewing the complete bridge architecture would be from the roadside at the few informal turnouts immediately north of the project site, and from offshore. The majority of viewers would know the bridge by traveling on it and seeing its railing and design details. Construction of the project is expected to cause more people to stop at the bridge approaches and nearby turnouts to view the structure and the natural vistas available from the project site.

The project site itself is somewhat visually degraded because of landslides and ongoing human activity. In spite of that, the route’s federal and state scenic designations, combined with a demonstrated high level of local concern regarding the preservation of visual resources, indicate that Highway 1, which includes the project area, is among the most sensitive in the state and perhaps the nation. The visual impact associated with the bridge would depend largely on how well the form of the

structure and the design details complement the aesthetic character of the Big Sur community and visitors' expectations of the coast highway. How the bridge visually relates to the other structures on the coast, and how well its appearance responds to the community's aesthetic goals and planning documents would be the ultimate determinant of visual impact. The Pitkins bridge has the potential to contribute to the high visual quality of the coast or to substantially degrade it.

Although the proposed bridge would be a large engineered structure, bridges are relatively common visual elements along Highway 1, and the addition of one more would not appear unusual or particularly unexpected. Although the construction of the proposed bridge would represent a change in the immediate environment, with the incorporation of mitigation and minimization measures, Alternative 2 would be consistent with the character of the Big Sur corridor.

The Rock shed

The proposed rock shed would be a unique structure on the California coast. It is expected that because of its distinctiveness, the rock shed would be recognized as a landmark along the highway corridor. As seen from the roadway, the portals and parapet walls of the rock shed would be the most visible elements of either project alternative. The function of the rock shed would require a large engineered structure, and the ability to reduce the perception of the structure's scale through creative engineering and architecture would be limited. The inherent mass of the rock shed would remain apparent, largely due to the viewer's experience of passing under and through it. Regardless of architectural forms, materials, and details, the shape and size of the rock shed would not readily blend with the landscape. The geometric forms associated with the structure would contrast with the mostly organic appearance of the setting.

From inside the rock shed, the proposed columns have the potential to frame views, and although the viewing duration within the rock shed would be short, the framed views combined with the enclosed spatial quality may increase the viewing experience in a unique way.

The Highway 1 corridor has a relatively low level of artificial night lighting. Lighting inside the rock shed would introduce a new source of visible light along the highway. No residences are close enough to be adversely affected by the lighting, although the lights would be seen from up-close and from distant northbound locations on the

highway. Any lighting proposed on the exterior of the rock shed structure, such as the portals, would potentially increase visibility of glare.

Viewer perception of the rock shed and sensitivity to change is expected to vary. Comparison to planning goals and the results of the Visual Quality Evaluation included in this study indicate that the majority of viewers are likely to consider the rock shed to be out of character with the natural Big Sur character in terms of scale and engineered appearance. It is also expected that other viewers would consider the rock shed as an interesting engineered element. This viewer group would likely see the rock shed as an exciting feature along this dynamic roadway.

Even with implementation of the measures listed below, extensive visual impacts would remain with Alternative 1 primarily due to visibility of the rock shed. The proposed rock shed would be a large, one-of-a-kind built structure and would become a visual landmark along the coast highway. Such a memorable large-scale element built along this national All-American Road would cause a substantial change in the visual character of the project area.

Avoidance, Minimization, and/or Mitigation Measures

Based on analysis of the Visual Quality Evaluation and review of coastal planning policies, it is found that the existing high visual quality of the area is mostly due to the following:

- Exaggerated topographic relief.
- The dramatic vistas of the Pacific Ocean.
- The minimal visual encroachment of constructed elements
- The harmonious visual pattern of the diverse native vegetation on the hills and ground plane.
- The combination of alternating distant vistas and narrowing view caused by undulating landform.

To maintain these visual quality elements and decrease potential negative visual impacts caused by the project, the following actions are recommended:

Measures 2.1.3.**A** through **Q** apply to both Alternative 1 and Alternative 2:

A. Design the structures with the highest quality architectural and engineering practices and considerations, acknowledging the existing historic bridges of the Big Sur Coast and using current state-of-the-art technology.

B. Involve the community in the design of all structures, walls, barriers, and other project aesthetics through the creation of an Aesthetic Design Advisory Committee.

C. Consider including a high level of architectural detailing in the design of the structures.

D. Use an open-style safety rail that minimizes view blockage.

E. Use finish colors and textures that minimize reflectivity and glare.

F. To the greatest extent possible use an "honest use of materials" philosophy that avoids the use of obviously "fake" materials, such as materials that are concrete formed and colored to look like wood, etc.

G. Re-contour all disturbed areas and construction access roads to a natural appearance.

H. Vegetate all stabilized soil areas with native shrubs and grasses. Include planting where possible around all exposed drainage pipes, permanent access roads, and retaining walls (except the interior of the rock shed).

I. Integrate existing rock outcroppings and stone landforms into the design to the greatest extent possible.

J. Minimize the use of signage and reflectors to the minimum required in the Manual of Uniform Traffic Control Devices with concurrence by Caltrans Traffic Design.

K. Minimize use of asphalt or concrete paving beyond the proposed 4-foot shoulders. If additional paving is required, alternative natural-appearing surfaces such as soil cement would be used.

L. Color additional rock netting or mesh, if required, completely black, including all integral connectors.

M. Bury all overside drains and inlet structures or hide them from view to the greatest extent possible. Where unavoidably exposed to view, color the pipes to reduce noticeability, and dull the gloss of the finish.

N. Color all paved ditches to reduce noticeability.

O. Where metal beam guardrail is required, use measures to reduce reflectivity of the metal components.

P. If paving is required beyond the paved portion of the roadway, use alternative natural-appearing surfaces such as soil cement. If a safety barrier is required at the perimeter of the pullout or parking area, design it to complement the other project structures. If boulders are used, half-bury them into the soil to appear natural.

Q. If pedestrian or bicycle railing is required, design it with materials, form, and colors to minimize noticeability and ocean view blockage, and to complement the bridge and rock shed architecture.

In addition to the above measures, mitigation measures 2.1.3.**R** through **V** apply to Alternative 1 only:

R. Minimize the tight, enclosed spatial characteristics of the rock shed to the greatest extent possible through measures such as:

   1. Reducing the number of columns,

   2. Reducing the thickness of the columns,

   3. Raising the ceiling height of the structure,

   4. Aligning the inside retaining wall (closest to the uphill slope) as far from the highway lanes as possible.

   5. Allowing the entry portals openings to be as large as feasible and still architecturally appropriate.

S. Minimize visibility of all light sources associated with the rock shed from offsite viewpoints by:

   1. Using recessed lights and shielded lenses.

2. Using the minimum number and wattage of lights required by policy.

3. Consider using motion detector-activated lights to eliminate light pollution when no vehicles or bicyclists are present.

T. Design the length of the rock shed and the form of the parapet walls at the portals so that no personnel fencing or railings are visible from the highway.

U. Consider using a ledger beam to support the rock shed roof connection to the hill rather than a full-height retaining wall, so that the native rock face of the hill would be exposed to highway viewers.

V. Disguise to the greatest extent possible any permanent road required to the roof of the rock shed for maintenance access. Also disguise any necessary gate by making it appear as a natural landform or screening it with berms and/or natural appearing boulders and native vegetation if possible.

Cumulative Impacts

The construction of either alternative would result in an extensive visual alteration of the project area. In addition, Alternative 1 would have a greater effect on the overall corridor viewing experience due to the memorability of the rock shed.

The highway traveler would experience the alternatives in conjunction with the Limekiln Creek Bridge and Rain Rocks viaduct. Travelers would likely think of these series of structures as a connected sequence of built structures and as one continuous built element. The cumulative visual affect of all these structures would be to intensify the “man-made” appearance of the area. Construction of either one of the project alternatives would result in the greatest concentration of highway structures on the Big Sur corridor. The construction of the rock shed with Alternative 1 would greatly increase the awareness of these engineered elements.

The visual transition between the project and the setting, both natural and built, would greatly affect whether the project looks like a cohesive design or a collection of unrelated elements. The Visual Quality Evaluation indicates a lack of visual unity between the basic forms of the bridge and rock shed structures proposed with Alternative 1. Incompatibility of the bridge and rock shed would potentially cause an increase in noticeability of the entire project and a cumulative degradation of visual quality.

Both Alternatives 1 and 2 would contribute to a cumulative increase of the overall built character of the Big Sur corridor. Alternative 2 would be a minor factor in this cumulative change because of the relatively common occurrence of bridges along the corridor. Alternative 1 would be a substantial contributor to a cumulative visual change because of the highly engineered and unique character of the rock shed.

Avoidance, Minimization, and/or Mitigation Measures for Cumulative Impacts

Mitigation measure 2.1.3.**W** applies to both build alternatives to address cumulative impacts.

W. Retrofit or replace the existing bridge rail on the Rain Rocks viaduct to complement the new bridge and rock shed structures.

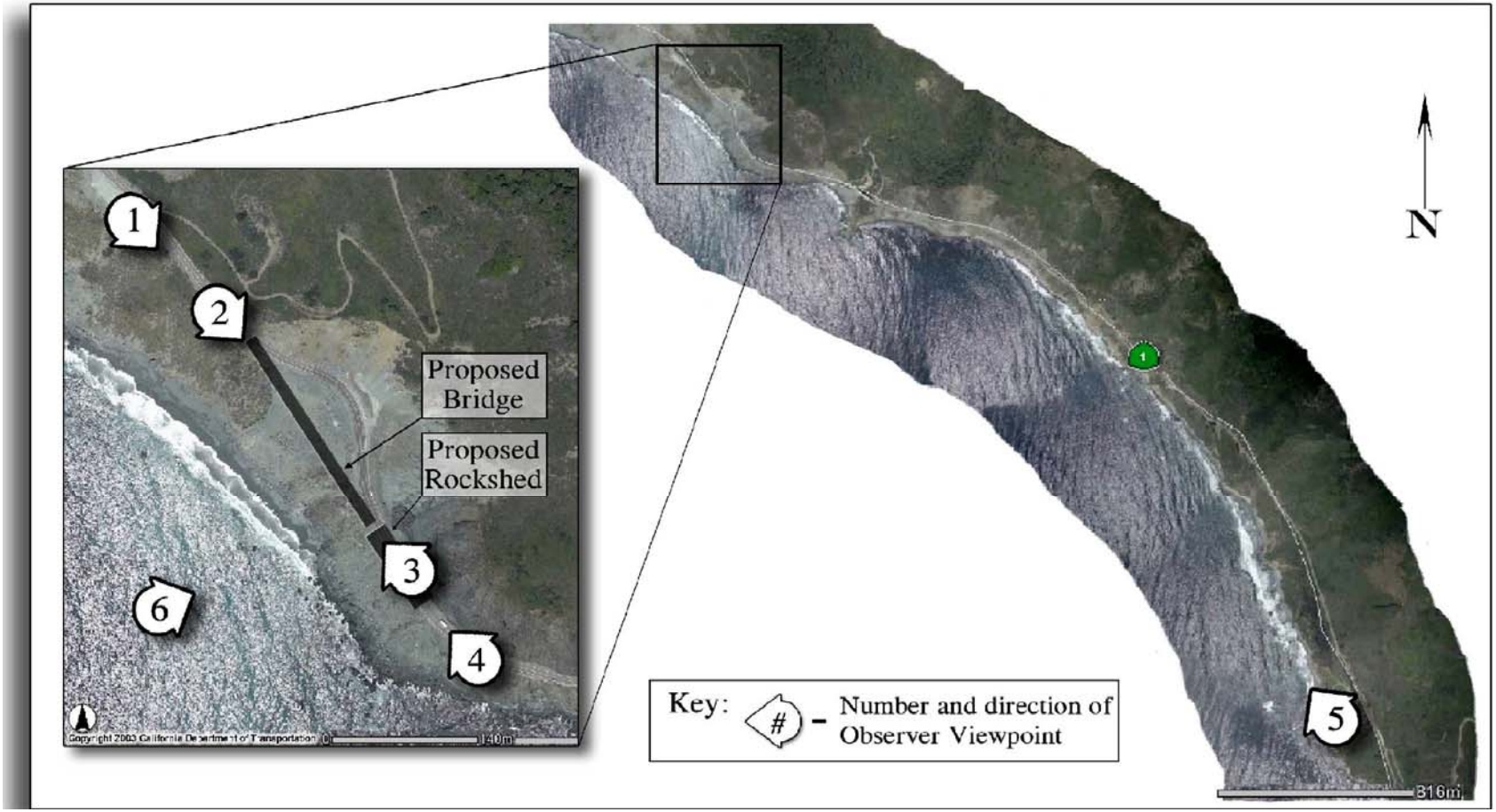

Figure 2-2 Observer Viewpoint Map

Figure 2-3 Existing View from Observer Viewpoint 1

Figure 2-4 Proposed Alternative 1 from Observer Viewpoint 1

Figure 2-5 Proposed Alternative 2 from Observer Viewpoint 1

Figure 2-6 Existing View from Observer Viewpoint 2

Figure 2-7 Proposed Alternative 1 from Observer Viewpoint 2

Figure 2-8 Proposed Alternative 2 from Observer Viewpoint 2

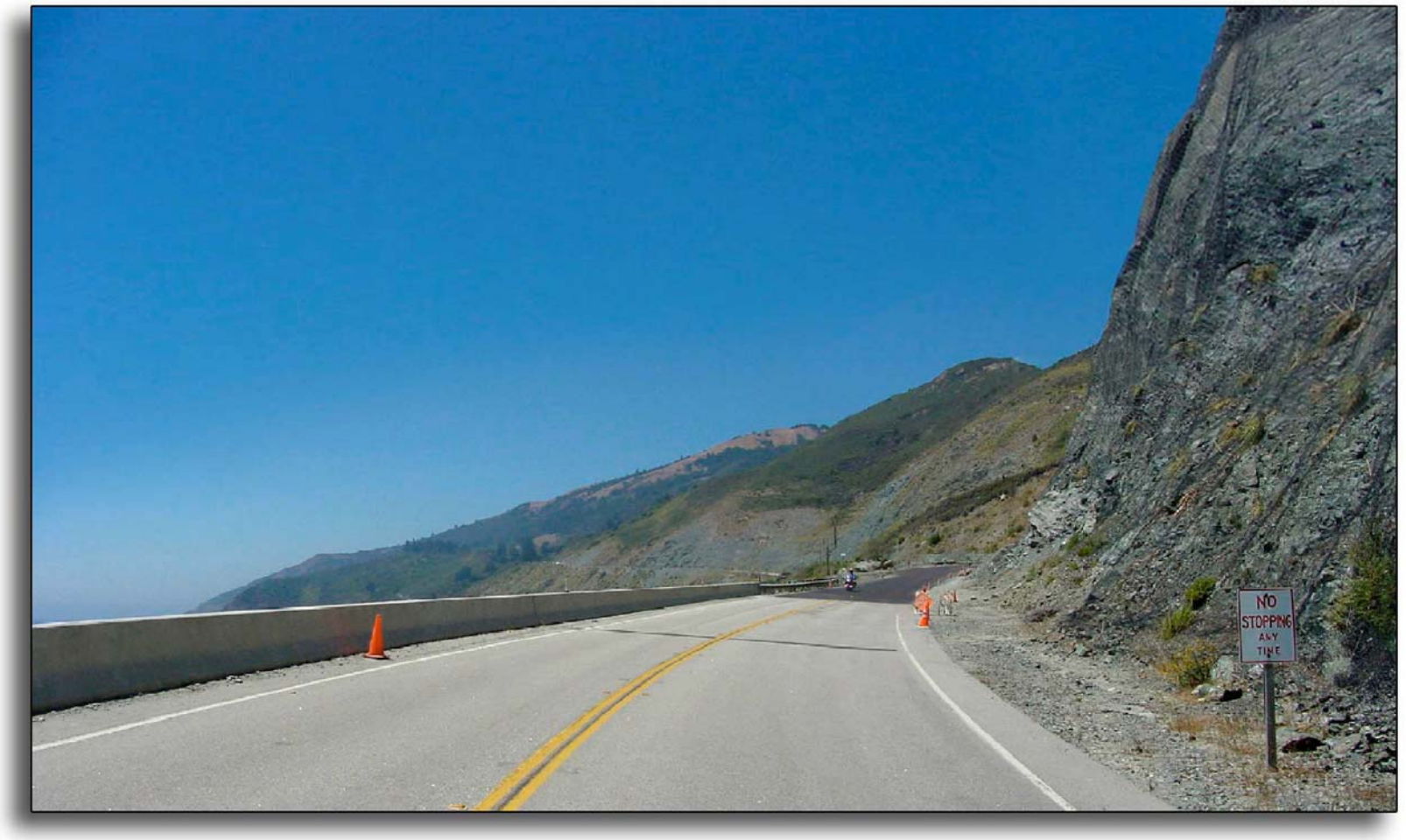

Figure 2-9 Existing View from Observer Viewpoint 3

Figure 2-10 Proposed Alternative 1 from Observer Viewpoint 3

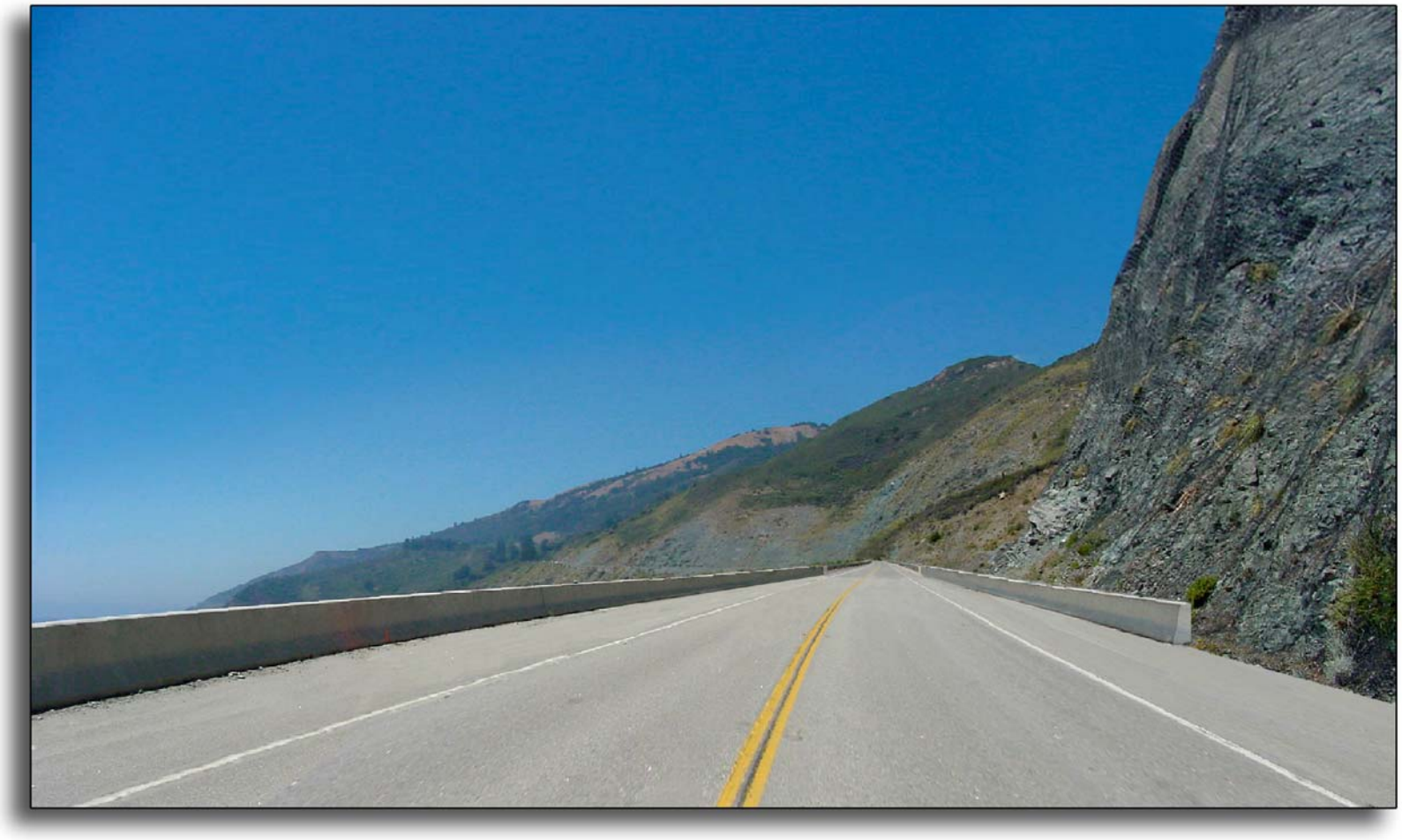

Figure 2-11 Proposed Alternative 2 from Observer Viewpoint 3

Figure 2-12 Existing View from Observer Viewpoint 4

Figure 2-13 Proposed Alternative 1 from Observer Viewpoint 4

Figure 2-14 Proposed Alternative 2 from Observer Viewpoint 4

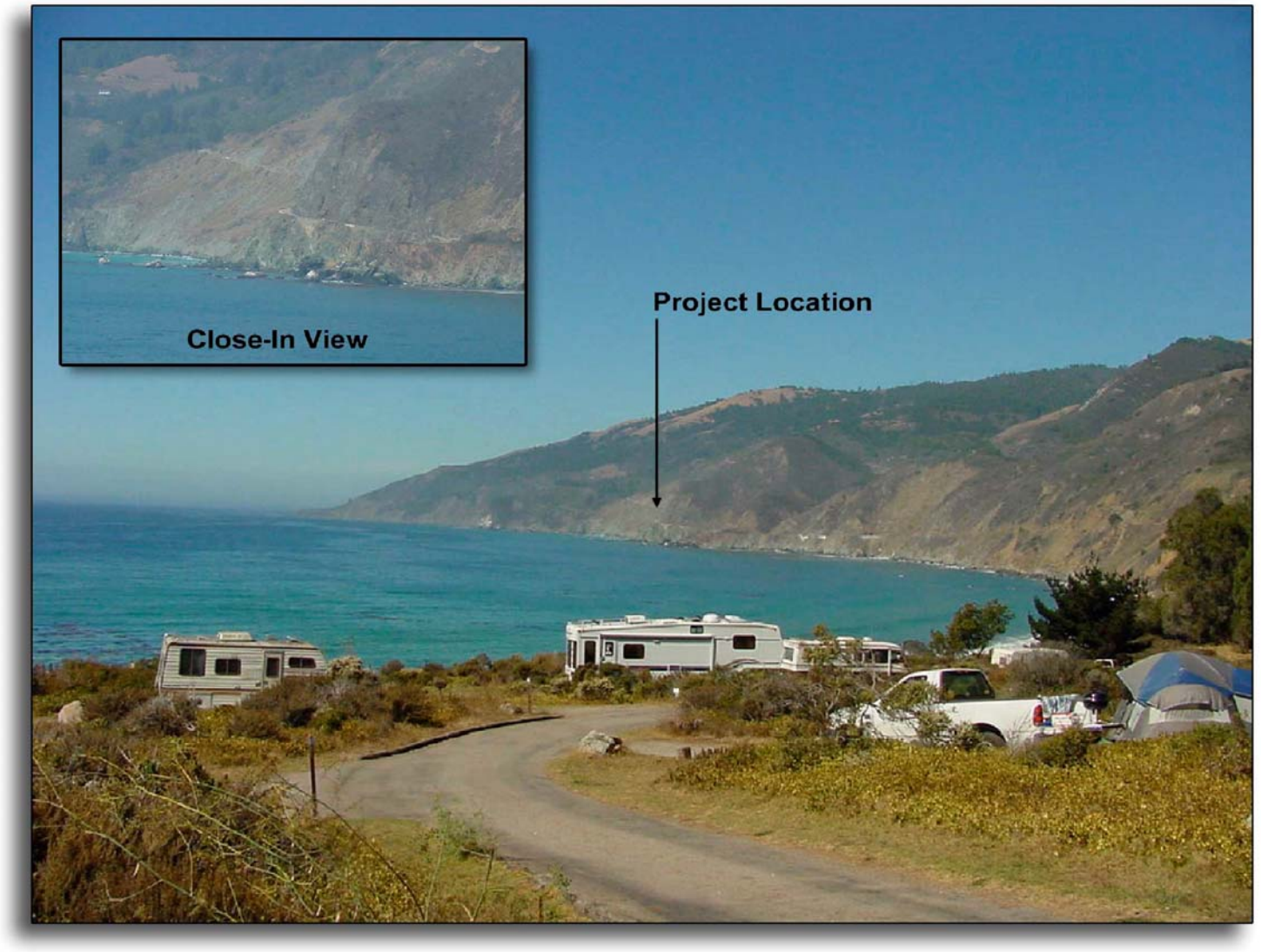

Figure 2-15 Existing View of Observer Viewpoint 5

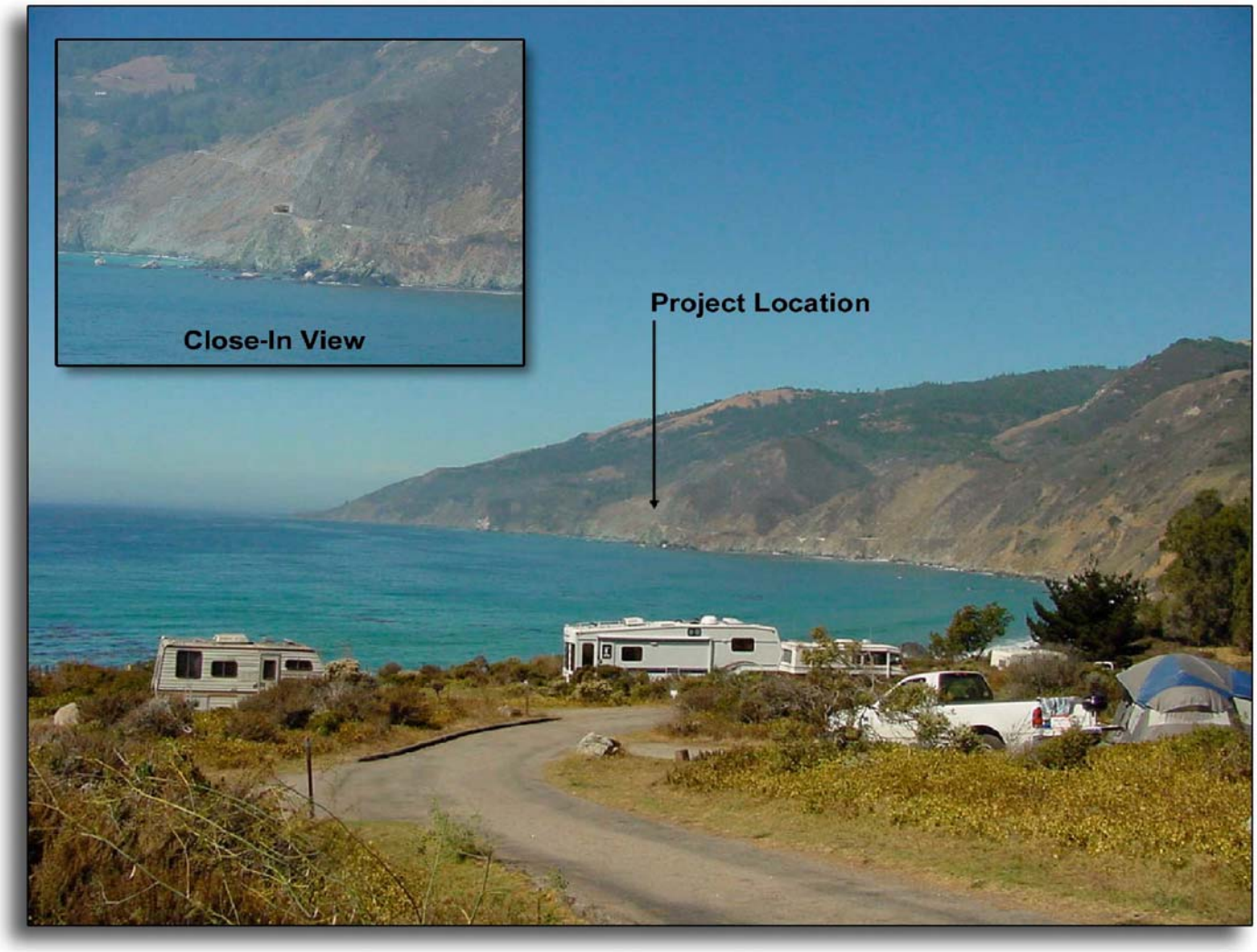

Figure 2-16 Proposed Alternative 1 from Observer Viewpoint 5

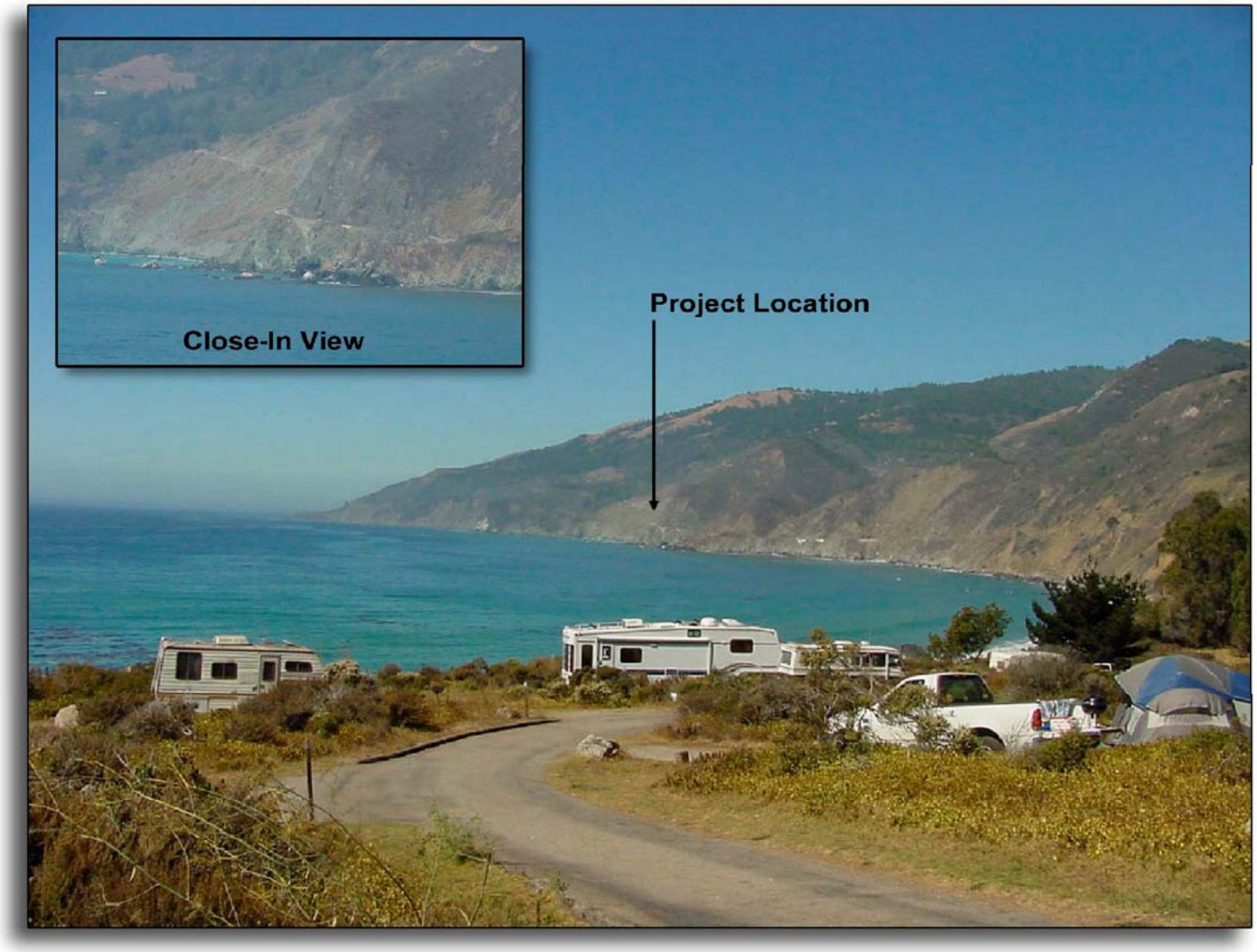

Figure 2-17 Proposed Alternative 2 from Observer Viewpoint 5

Figure 2-18 Existing View from Observer Viewpoint 6

Figure 2-19 Proposed Alternative 1 from Observer Viewpoint 6

Figure 2-20 Proposed Alternative 2 from Observer Viewpoint 6

2.2 Physical Environment

2.2.1 Geology/Soils/Seismic/Topography

This section discusses geology, soils, and seismic concerns as they relate to public safety and project design. The Preliminary Geotechnical Report, prepared December 3, 2004, documents the literature review, and surface and subsurface explorations used to evaluate the nature and extent of the geologic and geotechnical conditions of the project site.

Affected Environment

The Santa Lucia Mountain Range is part of the northwest southeast trending Coast Range Geomorphic Province. It is bounded on the west by the San Gregorio Fault zone and to the northeast by the Rinconada-Reliz fault. Several faults are located near the project site. The fault possessing the potential for the greatest influence on this site is the Sur-Arroyo Laguna-San Simeon fault.

The most widespread geologic unit is the Franciscan complex, which in this area consists of sheared metamorphosed sedimentary and volcanic rocks. It has been reported that occasionally, small bodies of serpentine exist in Franciscan shear zones; however, no serpentine bodies have been mapped or were found either on the surface or in drill borings within the project area. Overlying these are Quaternary age surface deposits, which were transported by gravity and water, and are described as colluvium (loose soil and rock fragments) and debris flow deposits. Below the roadway, artificial fill was used to construct and maintain the roadway embankment. Landslide features within the project area vary in size. The materials associated with the landslide features are highly variable, ranging from nearly intact bedrock to completely disrupted soils in a matrix of mixed sand, silt, and clay.

Groundwater, in the form of seeps and springs, is prevalent in the area.

Impacts

Ground rupture hazard at the project site is considered low, as no known faults cross the project site. The bridge would be constructed outside the slide plane and would not be impacted by future landsliding. The rock shed is designed to withstand forces anticipated from future rockfall. Both Alternatives 1 and 2 have been designed to allow the natural landslide processes to proceed without obstruction.

Avoidance, Minimization, and/or Mitigation Measures

None required.

2.3 Biological Environment

Biological studies are documented in the "Pitkins Curve Bridge and Rock shed Natural Environment Study," completed April 2005 and summarized below. Topics discussed are, Natural Communities: Section 2.3.1, Wetlands and Other Waters: Section 2.3.2, Animal Species: Section 2.3.3, Threatened and Endangered Species: Section 2.3.4 and Invasive Species: Section 2.3.5.

Early in the project while alternatives were being developed, a biological study area was delineated in consultation with design engineers and construction personnel to encompass the full range of alternative solutions, including the area that might be needed temporarily for construction activities. This biological study area is depicted in Figure 2-1. It was the focus of biological inventories. After identification of the build alternatives, a narrower area of direct impact was delineated to assess potential impacts. The area of direct impact includes the area in which the bridge and rock shed would be constructed. Additionally, it includes existing highway turnouts within a mile north of the bridge and rock shed location, which could potentially serve as equipment storage and staging areas, as shown in Figure 2-21 (A-C).

2.3.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. Refer to Section 2.3.4 for discussion of Threatened and Endangered species. The "Natural Environment Study," completed in April 2005, documents the studies undertaken to assess impacts to natural communities from the proposed project.

Affected Environment

The land in most of the study area has been influenced by years of active natural slope movement and highway restoration, leaving it rocky and devoid of well-developed habitat. There are some patches of vegetation, made up of both native plants and common invasive weeds, which border the immediate roadside and, in some places, extend beyond it. Where these patches of vegetation exist, native central coastal scrub, coastal sage scrub and riparian plants predominate.

Impacts

Native Vegetation

Approximately 0.39 hectare (0.96 acre), sparsely vegetated with native plants of the central coastal sage scrub community and non-native plants, would be removed during construction of either Alternative 1 or 2.

Avoidance, Minimization, and/or Mitigation Measures

A. To minimize construction-related impacts, Environmentally Sensitive Areas would be delineated on the project plans around all pullouts that may be used for equipment storage, as indicated on Figure 2-21(A-C). The resident engineer, in consultation with the project biologist, would determine where Environmentally Sensitive fencing would be installed to limit construction activities.

B. After construction is complete, the project area would be evaluated to determine where revegetation would be appropriate and successful. Those areas identified for revegetation would be planted with native vegetation, suitable for the area, as recommended by Caltrans Office of Landscape Architecture and in consultation with the project biologist. Vegetation would be replaced at a ratio of 1:1. Plant salvage, local seed collection, and contract growing are techniques that can be used to mitigate for the loss of native shrubs that are removed.

C. An installation and maintenance contract for mitigation plantings would be developed. The maintenance agreement would be at least three years in length. During that time, all invasive weeds should be regularly removed. A 70 percent survival rate for of all plantings, three years post-construction, would be the target goal.

D. A Caltrans biologist or designee would prepare monitoring reports for various agencies if they are needed as part of conditions set forth in permits. Annual reports summarizing results would be sent to any requesting and appropriate state and federal agencies.

E. A Mitigation, Monitoring, Restoration, and Success Criteria Plan would be prepared for this project. The plan would include success criteria for revegetation. A three-year monitoring schedule, with annual reports to various agencies is typically recommended. For three years, biannual environmental monitoring for all mitigation plantings would be conducted to determine if the project meets success criteria, to request any needed replacement plantings, and to identify remedial actions if the success criteria were not achieved.

2.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. Two types of wetlands have potential to occur in the project study area: U. S. Army Corps of Engineers and California Coastal Zone.

The U. S. Army Corps of Engineers regulates wetlands and other waters of the United States through the Clean Water Act (33 U.S.C. 1344). The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce and tributaries to navigable waters. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation and inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The U. S. Army Corps of Engineers, with oversight by the Environmental Protection Agency, runs the Section 404 permit program.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the Department of Fish and Game and the Regional Water Quality Control Boards. In certain circumstances, such as with this project, the Coastal Commission may also be involved.

Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that would substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Game before beginning construction. If the Department determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would be required. California Department of Fish and Game jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Game and visa versa.

Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Boards also issue water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section for additional details.

The California Coastal Commission and County of Monterey regulate some of the wetlands through the California Coastal Act. To classify wetlands for the purposes of the California Coastal Act, wetland hydrology must be present. However, the presence of hydrophytic (water-loving) vegetation and/or are not required in under normal circumstances, for an area to be designated as a jurisdictional wetland under the California Coastal Act.

The Marine Sanctuaries Protection Act prohibits discharge of material into the ocean that could harm a sanctuary resource. The Monterey Bay National Marine Sanctuary is a federally protected marine area offshore of California's central coast. The sanctuary is concerned with the potential for highway activities on the steep slopes of Pitkins Curve/Rain Rocks to affect the intertidal and nearshore habitats. The Monterey Bay National Marine Sanctuary includes a permit program to review planned activities that may harm sanctuary resources and to issue permits or other authorizations with specific measures needed to minimize impacts.

Affected Environment

Non-marine

Ephemeral seeps and springs, defined as “Other Waters of the U.S.” by the Army Corps of Engineers, are near the location of the proposed bridge and rock shed. They originate on the steep slopes above and below the highway, are seasonal, weather-

dependent, and carry water for only a few months every year. Because of the dynamic movement of the slopes, there is no vegetation associated with these springs where they seep from the hillside. Waters from uphill seeps are collected in culverts and directed under the highway to drain to the ocean. There are two culverts within the project limits.

Coastal wetlands[15], which exhibit willow riparian vegetation and standing water, though no hydric soils, are located adjacent to the existing roadway, near Turnouts 1 and 2. No Army Corps of Engineers wetlands are present in the project area.

Marine

The Pitkins Curve marine habitat has been characterized by biologists who conducted biannual studies of the shoreline in the project area.[16] The beach at the base of the project area is sand and gravel, strewn with limpet-covered boulders. Strong and persistent wave action scours the shore here, creating relatively barren conditions. In the surf zone, the shore is sandy with scattered boulders that support mussel, oar kelp, and red algae populations. Offshore, kelp beds provide habitat for southern sea otters.

The movement of soil, from slope to sea, influences the marine habitat here. While this process has been ongoing, the exact effects are not clearly understood. Caltrans has begun a project to mimic the natural processes of landslide material making its way naturally to the sea while monitoring the environmental effects of the process. (Refer to Section 1.2.3.)

Impacts

The Pacific Ocean and the ephemeral springs and seeps are considered “Other Waters of the U.S.” under jurisdiction of the U.S. Army Corp of Engineers.

Non-marine

Approximately 0.005 hectare (0.012 acre) of “Other Waters of the U. S.,” in the form of unvegetated seeps and springs, would be affected by construction of Alternative 1 or 2 during construction activities undertaken to redirect them into new culverts.

[15] In this document, wetlands under jurisdiction of the California Coastal Commission Coastal Act and the Monterey County Local Coastal Program are called coastal wetlands.
[16] “Shoreline and Nearshore Biological Characterization of the Highway 1 Slide Area at Pitkins Curve, 2002.” “Shoreline and Nearshore Biological Characterization of the Highway 1 Slide Area at Pitkins Curve, March 15, 2004.”

Neither build alternative would affect Army Corps of Engineers wetlands or coastal wetlands.

Marine

Construction of the build alternatives would avoid placement and prevent accidental placement of soil in the ocean.

Avoidance, Minimization and/or Mitigation Measures

Non-marine

A. To ensure that all potential impacts to wetland resources are avoided and minimized, Environmentally Sensitive Area fencing would be installed to protect coastal wetlands, as delineated in Figure 2-21 (A-C). The mapped locations of the Environmentally Sensitive Areas would be included on the project plans and layout sheets and included in the Special Provisions of the construction contract. All fencing would be placed at the direction of the Resident Engineer, in consultation with a representative from the Environmental Branch.

B. All refueling and maintenance of equipment would be conducted at least 20 meters (60 feet) from wetlands and waters of the U.S.

C. Prior to the onset of work, the Resident Engineer would insure that the contractor has prepared a plan for prompt and effective response to any accidental spills, to ensure protection of aquatic resources. All personnel would be informed of the plan and the importance of preventing spills.

D. All construction activities would be completed in accordance with the Caltrans National Pollution Discharge Elimination System Permit, the General Construction Permit, and Caltrans Statewide Storm Water Management Plan.

E. To protect all adjacent springs, seeps, willow riparian wetlands, and the Pacific Ocean, Caltrans would implement best management practices, as identified by the appropriate Regional Water Quality Control Board. These best management practices would be implemented to minimize or eliminate the potential for a non-storm water discharge to occur. Construction site best management practices are addressed in detail in the Storm Water Pollution Control Plan that will be developed for the project site.

F. If a work site were to be temporarily de-watered by diversion or pumping, intakes would be completely screened with wire mesh not larger than five millimeters to prevent all aquatic wildlife from entering the pump system. Water would be

treated, released, or pumped to an appropriate location at a rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow would be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

G. Due to the time that would elapse before project construction and because the biological environment in the project area is subject to change, pre-construction surveys would be undertaken approximately one year prior to construction to identify up-to-date distribution of wetlands. If wetland presence or distribution has changed from that documented in the April 2005 Natural Environment Study, the appropriate agencies would be consulted. All avoidance, minimization, and mitigation measures would be applied, as directed above, to newly identified wetlands.

Marine

H. A biological/environmental monitor would be present onsite during construction activities that may impact the ocean and marine environment, special-status species, and/or migratory birds. This includes drilling and blasting for the construction of piers and abutments for the new bridge and rock shed and any associated de-watering activities.

I. The Caltrans Resident Engineer, in consultation with the biologist and/or environmental monitor would have the authority to halt any action that might result in impacts that exceed the anticipated levels of impact that were determined during agency review (by Caltrans, Army Corps of Engineers, California Department of Fish and Game, Coastal Commission, and/or U.S. Fish and Wildlife Service) of the proposed actions. If work is stopped, the biologist or environmental monitor would immediately notify these same regulatory agencies.

J. All refueling and maintenance of equipment and vehicles would be at least 20 meters (60 feet) from any aquatic habitat, wetland area, or any water body. The contractor would ensure contamination of habitat does not occur during such operations. All workers would be informed of the importance of preventing spills of fuels and of the appropriate measures to take should a spill occur.

K. Prior to the onset of work, the Army Corps of Engineers would ensure that the permittee has prepared a plan to allow a prompt and effective response to any accidental spills around aquatic habitats. All workers would be informed of the

importance of preventing spills and of the appropriate measures to take should a spill occur.

L. Erosion Control and Storm Water Management. All construction activities would be completed in accordance with Caltrans National Pollution Discharge Elimination System Permit, the General Construction Permit, and Caltrans Statewide Storm Water Management Plan.

M. To protect the Pacific Ocean, Caltrans would implement best management practices as identified by the appropriate Regional Water Quality Control Board. These best management practices would be implemented to minimize or eliminate the potential for a non-storm water discharge to occur. Construction site best management practices are addressed in detail in the Storm Water Pollution Control Plan that will be developed for the project site.

N. If a work site is to be temporarily dewatered by diversion, pumping, and treating, intakes would be completely screened with wire mesh not larger than five millimeters to prevent all aquatic wildlife from entering the pump system. Water would be released or pumped to an appropriate location at a rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow would be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

2.3.3 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanographic and Atmospheric Fisheries, and the California Department of Fish and Game are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.4. All other special-status animal species are discussed here, including California Department of Fish and Game fully protected species and species of special concern, and the U.S. Fish and Wildlife Service or National Oceanographic and Atmospheric Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1601 – 1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code

Affected Environment

Migratory Birds

Common migratory birds such as barn swallows have been observed nesting under the existing cable rock net at Rain Rocks and on the rocky cliffs above Pitkins Curve.

Impacts

Migratory Birds

Loss of nesting habitat for one to two seasons is anticipated with construction of either Alternative 1 or 2. Approximately 50 percent of the existing cable net would be removed at Rain Rocks under Alternative 1.

Avoidance, Minimization and/or Mitigation Measures

Migratory Birds

A. One year prior to construction, pre-construction surveys would be conducted during the nesting season to identify the presence or absence of active nests for birds protected under the Migratory Bird Treaty Act. If birds were nesting, after their dispersal, bird netting would be installed to deter nesting during construction.

2.3.4 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act: United States Cod, Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway

Administration, are required to consult with the U. S. Fish and Wildlife Service and the National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an incidental take permit. Section 3 of the federal Endangered Species Act defines take as "…harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code, Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game is the agency responsible for implementing the California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits "take" defined in Section 86 of the Fish and Game Code as "… hunt, pursue, catch, capture, or kill, or attempt to hunt pursue, catch capture, or kill." California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by California Department of Fish and Game.

For projects requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, California Department of Fish and Game may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Affected Environment

Ten plant species, one invertebrate species, two fish species, two amphibian species, one reptile species, six bird species, and one mammal species are listed by state and federal agencies[17] as threatened or endangered and are present within one mile of the project area. Biological studies for the project assessed the potential for each of the 23 threatened or endangered species to occur in the project study area and, subsequently, Caltrans conducted surveys to determine the presence or absence of the species within

[17] California Natural Diversity Data Base, California Native Plants Survey, U. S. Fish and Wildlife Service, March 5, 2002.

the project study area and the project area of direct impact. The results of these studies are detailed in the Natural Environment Study, April 2005, summarized in Table 6 and discussed below.

Of the 23 species identified for further consideration, biological studies determined only eight had potential to occur in the biological study area. Further biological study and field evaluations identified habitat for Smith's blue butterfly, the California condor, and the Southern sea otter in the project area.

Table 6. Threatened and Endangered Species Listed Near the Project Area[18]

Scientific Name Common Name	*Legal Status*			*Plant Community / Habitat Association*	*Survey / Flowering Window*	*Potential in the BSA (Biological Study Area) or ADI (Area of Direct Impact)[19]/info source*
	Federal	*State*	*CNPS*			
Plants						
Astragulus tener var. titi Coastal Dune Milk Vetch	FE	SE	1B	Coastal bluff scrub (sandy), coastal dunes, coastal prairie (mesic). Elevation 0-50 meters. Annual herb.	March – May	Out of elevation range. Habitat not present in BSA or ADI. Not observed during surveys. USFWS list.
Chorizanthe pungens var. pungens Monterey spineflower	FT		1B	Maritime chaparral, Cistomontane woodland, coastal dunes, coastal scrub, valley and foothill grasslands. Sandy soils in coastal dunes or more inland within chaparral or other habitats. Elevation 3-450 meters. Annual herb.	April – June	Habitat not present and does not occur in BSA or ADI. Not observed during surveys. USFWS list.
Cirsium loncholepis La Graciosa thistle	FE	ST	1B	Coastal dunes, coastal scrub, marshes, and swamps (brackish), mesic, elevation 4-220 meters. Perennial herb.	May-August	Habitat not present and does not occur in BSA or ADI. Not observed during surveys. CNDDB list.
Eriogonum butterworthianum Butterworth's buckwheat		Rare	1B	Chaparral (sandstone). Elevation 585-730 meters. Perennial herb.	June-July	Habitat not present and does not occur in BSA or ADI. Not observed during surveys. CNDDB list.
Gilia tenuiflora ssp. arenaria Sand gilia	FE	ST	1B	Chaparral (maritime), cistomontane woodland, coastal dunes, coastal scrub, /sandy, openings. Elevation: 0-45 meters. Annual herb.	May – June	Out of elevation range. Habitat not present and does not occur in BSA or ADI. Not observed during surveys. USFWS list.

[18] Sources of Information: April 2004 California Natural Diversity Database (CNDDB) Search, U.S. Geological Survey Quads - Cape San Martin, Lopez Point and Cone Peak, U.S. Fish and Wildlife Service (USFWS) Species list received 3-5-02 and California Native Plant Society (CNPS) Inventory of Rare, Threatened and Endangered Plants – published 2001

[19] BSA/ADI: Biological Study Area or Area of Direct Impact defined as all areas directly or indirectly affected by the proposed project.

Scientific Name Common Name	*Legal Status*			*Plant Community / Habitat Association*	*Survey / Flowering Window*	*Potential in the BSA (Biological Study Area) or ADI (Area of Direct Impact)[19]/info source*
	Federal	*State*	*CNPS*			
Layia carnosa Beach layia	FE	SE	1B	Coastal dunes, coastal scrub, (sandy). Elevation: 0-60 meters. Annual herb.	March - July	Out of elevation range – Suitable habitat not present. Not observed during surveys. Does not occur in BSA or ADI. USFWS list.
Lupinus tidestromii Tidestrom's lupine	FE	SE	1B	Coastal dunes. Elevation: 0-100 meters. Rhizomatous perennial herb.	April – June.	Out of elevation range – Suitable habitat not present. Not observed during surveys. Does not occur in BSA or ADI. USFWS list.
Piperia yadonii Yadon's Rein Orchid	FE		1B	Coastal Bluff Scrub, closed cone coniferous forest, chaparral (maritime) / sandy. Elevation: 10-415 meters. Perennial herb.	May - August	Suitable habitat not present. Not observed during surveys Does not occur in BSA or ADI. USFWS list.
Potentilla hickmanii Hickman's potentilla	FE	SE	1B	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), marshes, and swamps freshwater. Elevation 10-135 meters. Perennial herb.	April – August.	Suitable habitat not present. Not observed during surveys. Does not occur in BSA or ADI. USFWS list.
Sanicula maritima Adobe sanicle		Rare	1B	Chaparral, coastal prairie, meadows and seeps, valley and foothill grasslands/clay/serpentine. Elevation: 30-240 meters. Perennial herb.	February – May	Does not occur in BSA or ADI. Not observed during surveys. CNDDB list.
Invertebrates						
Smith's blue butterfly *Euphilotes enoptes smithi*	FE			Buckwheat plants, coastal sage scrub. Larvae are dependent on buckwheat plants and flowers and soil beneath the plants.	June-July Survey window	Potential habitat present in BSA, and possibly in ADI– observed on 1 solitary plant in landslide area during focused surveys June 2004. CNDDB and USFWS lists.

Scientific Name Common Name	*Legal Status*			*Plant Community / Habitat Association*	*Survey / Flowering Window*	*Potential in the BSA (Biological Study Area) or ADI (Area of Direct Impact)[20]/info source*
	Federal	*State*	*CNPS*			
Fish						
Eucyclogobius newberryi Tidewater goby	FE, CH	SSC		Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	NA	No suitable habitat present. Does not occur in BSA or ADI. CNDDB and USFWS lists.
Oncorhynchus mykiss Steelhead – South/Central California Coast	FT, CH			Require cool, deep freshwater pools for holding through the summer, prior to spawning in the winter. Generally found in shallow areas, with cobble or boulder bottoms at the tails of pools, enter Pacific Ocean as juveniles for 3-7 years.	NA	Potential breeding habitat present just south of BSA at Limekiln Creek, located approximately 1 mile south of ADI. Does not occur in BSA or ADI. CNDDB and USFWS lists.
Amphibians						
Rana aurora draytonii California red-legged frog	FT, CH	SSC		Favors cool pools (>2 feet deep) with undercut banks bordered by dense vegetation. Requires emergent or submergent vegetation for egg attachment. Requires 4-5 months of permanent water lacking predators for successful larval development	May 1 – November 1	Potential foraging and dispersal habitat exists within the BSA, but not within ADI. No suitable breeding habitat present in BSA or ADI. No permanent water – ephemeral drainages and subsurface seeps. USFWS and CNDDB lists.
Taricha torosa torosa Coast range newt		SSC		Favors annual grassland habitat; adults spend most of the year in underground burrows. Breeding and egg laying occur after first rains in vernal pools and temporary ponds. Larvae transform late spring, early summer, usually by first of July.		Suitable breeding habitat not present, but potential foraging and dispersal habitat present in BSA (adjacent to some of the turnout/staging areas) but not in ADI. CNDDB list.

[20] BSA/ADI: Biological Study Area or Area of Direct Impact defined as all areas directly or indirectly affected by the proposed project.

Scientific Name Common Name	*Legal Status*			*Plant Community / Habitat Association*	*Survey / Flowering Window*	*Potential in the BSA (Biological Study Area) or ADI (Area of Direct Impact)[21]/info source*
	Federal	*State*	*CNPS*			
Reptiles						
Clemmys(Emys) marmorata pallida Southwestern pond turtle		SSC		Require basking sites such as partially submerged logs, vegetation mats, or open mud banks. Need suitable nesting sites.	NA	Suitable habitat not present in BSA or ADI. USFWS and CNDDB list.
Birds						
Brachyramphus marmoratus Marbled murrelet	FT	SE		Occurs year-round in marine sub-tidal and pelagic habitats and nearshore environment from the Oregon border to Point Sal, Santa Barbara Co. Partial to coastlines with stands of mature redwood and Douglas-fir; uses these trees for nesting and probably roosting	NA	Suitable nesting habitat not present in BSA or ADI. Foraging and dispersal habitat present in BSA (Pacific Ocean), but species has not been observed. USFWS list.
Cypseloides niger Black swift		SSC		Nests in moist crevice or caves on sea cliffs above surf or on cliffs behind or adjacent to waterfalls in deep canyons. Needs moisture at nest. Migrates south for winter.	May-Sept.	Suitable nesting habitat not present in BSA or ADI. Foraging and dispersal habitat present. Observed in flight over BSA in 2001. CNDDB list.
Charadrius alexandrinus nivosus Western snowy plover	FT CH	SSC		Requires sandy, gravelly, or friable soil substrate for nesting.		Suitable habitat not present in BSA or ADI. USFWS list.

[21] BSA/ADI: Biological Study Area or Area of Direct Impact defined as all areas directly or indirectly affected by the proposed project.

Scientific Name Common Name	*Legal Status*			*Plant Community / Habitat Association*	*Survey / Flowering Window*	*Potential in the BSA (Biological Study Area) or ADI (Area of Direct Impact)[21]/info source*
	Federal	*State*	*CNPS*			
Gymnogyps californianus California condor	FE	SE		Permanent resident of semi-arid, rugged mountain ranges. Forages over open rangelands, roosts on cliffs and large tree snags between sea level and 2700 meters. Nesting sites in caves, crevices, behind rock slabs.	NA	Suitable nesting habitat not present in BSA or ADI. Foraging habitat present and species has been observed in BSA and in ADI. USFWS list.
Pelicanus occidentalis Brown pelican	FE	SE		Found in estuarine, marine sub-tidal, and marine pelagic waters along the California coast.	NA	Suitable foraging and dispersal habitat offshore in BSA but not within ADI. Species observed, but not within ADI. USFWS list.
Haliaeetus leucocephalus Bald eagle	FT, Delisting proposed	SE		Ocean shorelines, lake margins, and river courses for both nesting and wintering. Nests in large, old growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	NA	Suitable nesting habitat not present in BSA or ADI. Foraging and dispersal habitat present, species has not been observed. USFWS list.
Mammals						
Enhydra lutris nereis Southern sea otter	FT			Sea otters are found in a narrow band along the coast, kelp beds are favorite habitat for sleeping, raising young, and for staying close to shore.	NA	Suitable dispersal, foraging, and breeding habitat exists offshore in BSA, but not within ADI. Species observed in all seasons, sometimes caring for young. USFWS list.

California Department of Fish and Game Listing Codes

SSC California Species of Special Concern
SE State Listed as Endangered
ST State Listed as Threatened

Federal Listing Codes

FE Federally Listed as Endangered
FT Federally Listed as Threatened
CH Critical Habitat
C Candidate Species
PCH Proposed Critical habitat

* Critical habitat for Steelhead was vacated in April 2002 to be reconsidered in future
** Critical habitat for California red-legged frog was vacated in November 2002, and reintroduced in Spring 2004

Smith's blue butterfly

Smith's blue butterfly is listed by U.S. Fish and Wildlife Service as an endangered species. Its distribution extends along the coast and in the Santa Lucia Mountains. Buckwheat plants serve as the butterfly's food source and egg laying location. Surveys were conducted to locate Smith's blue butterfly three times during the season when it appears on the coast, but none were found. A single, isolated buckwheat plant, one of the butterfly's host plants, was identified growing on rocky soil within the biological study area.

California Condor

The California condor is listed by the U.S. Fish and Wildlife Service and by the Department of Fish and Game as an endangered species. It permanently resides in semi-arid and rugged mountain ranges, such as the Santa Lucias, and forages over open rangelands. It roosts on cliffs and large tree snags between sea level and 2,700 meters above sea level. Nesting sites are commonly in caves. Suitable nesting habitat is not present in the biological study area. Foraging and dispersal habitat is present in and adjacent to the project area and the species has been observed in this area in the past.

Southern Sea Otter

The southern sea otter is listed by U.S. Fish and Wildlife Service as threatened. It resides in the Pacific Ocean in kelp beds and near the shore. Suitable dispersal, foraging, and breeding habitat exists offshore in the biological study area. Sea otter have been observed offshore, adjacent to the project location in all seasons.

Impacts

Smith's blue butterfly

A single buckwheat plant is located in the construction area for Alternatives 1 and 2 and would be affected by construction of either alternative. Due to the isolated location of this single Smith's blue butterfly host plant, the marginal habitat it is growing in, and the lack of butterflies observed during surveys, there is a very low potential for impacts to this species from construction of either alternative.

California condor

Trees and tall rocky cliffs, which may provide roosting habitat for the California condor, are present adjacent to the area of direct impact for Alternative 1 and 2. Condors have been known to perch on large construction equipment and be attracted to human activity, trash, and food. Condors have been sighted flying by the area. It is

likely that they would be present occasionally near the area of direct impact during construction; however, the project is not likely to impact them.

Southern sea otter

There is a slight potential for indirect impacts to occur to this species during construction due to noise generated from the construction site. Wildlife experts[22] were consulted to determine the project's potential to affect southern sea otters. Due to the distance between the project and the sea otter resident kelp beds, the temporary nature of project noise, and the existence of contiguous kelp beds, it was determined that it is unlikely and only remotely possible that the sea otter would be affected by construction noise. Otters are expected to move to adjacent kelp beds if noise from the project is disturbing to them. No other impacts are anticipated to occur to the sea otter population.

Coordination with Resource Agencies

Caltrans sought technical assistance from the U. S. Fish and Wildlife Service under Section 7 of the Endangered Species Act and the California Department of Fish and Game. The proposed project, with identified avoidance, minimization, and mitigation measures would have No Effect on any Federal and or State listed endangered, threatened, or special-status wildlife species.

Avoidance, Minimization, and/or Mitigation Measures

A. The number of access routes, size of staging areas, and the total area of activity would be limited to the minimum necessary to safely construct this project.

Smith's blue butterfly

B. As a result of technical assistance from U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act, the single Smith's blue butterfly host plant (buckwheat) would be removed, with the surrounding soils and duff, and relocated outside the area of direct impact to an area nearby that has established buckwheat plants.

[22] Christine Pattison, Department of Fish and Game; Bryan Hatfield, U. S. Geological Survey; Greg Sanders and David Pereksta, U. S. Fish and Wildlife Service and Christine Fahy, NOAA Fisheries Service. Michelle Roest, Monterey Bay National Marine Sanctuary.

California condor

C. Due to their curious nature, condors may frequent the construction site and perch on large equipment, looking for food scraps. During construction, all food-related trash would be properly contained and regularly removed from the work site.

Southern sea otter

D. A Caltrans biologist or designee would monitor sea otter activity during events that cause loud noises, such as blasting, for observation of abnormal activity or behavior and contact U.S. Fish and Wildlife Service if such behavior occurs.

Measures applying to all Special-Status Species

E. Due to the time that would elapse before project construction and because the biological environment in the project area is subject to change, pre-construction surveys would be undertaken during the appropriate survey season, approximately one year prior to construction to identify up-to-date distribution of special-status species. If any federally listed species are found during the pre-construction surveys, no construction would be undertaken until consultation was completed between the Federal Highway Administration and the U. S. Fish and Wildlife Service. If any state special-status species were found during the pre-construction surveys, no construction would be undertaken until consultation was completed between Caltrans and the California Department of Fish and Game. All requirements resulting from consultation with the resource agencies would be followed.

F. A Caltrans biologist (or designee) would conduct a training session for all construction personnel before any construction activities begin. The training session would include a description of all special-status species known to occur in the project vicinity (Smith's blue butterfly and buckwheat host plants, California condor, and southern sea otter). The biologist would discuss their habitats, their importance, and general measures being implemented to conserve these species as they relate to the project boundaries. Brochures, photographs, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

G. A biological/environmental monitor would be present onsite during construction activities that may affect special-status species. This includes blasting for the construction of structure piers and abutments and any associated de-watering activities.

H. If any special-status species were found during construction, the Environmental Branch would be contacted immediately. After any and all required consultations with agencies have occurred, the Caltrans biologist or designee would be present at the construction site until such time as special-status species have been removed and any special instructions have been given to construction personnel.

I. The Caltrans resident engineer, in consultation with the biologist and/or environmental monitor would have the authority to halt any action that might result in impacts that exceed the anticipated levels of impact that were determined during agency review (between Caltrans, U.S. Army Corps of Engineers, California Department of Fish and Game and/or U.S. Fish and Wildlife Service). Once work has stopped, the biologist or environmental monitor would notify these same regulatory agencies.

2.3.5 Invasive Species

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or ham to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the National Environmental Policy Act analysis of a proposed project.

Section 4.1.3 (B)(2) of the Monterey County Local Coastal Big Sur Coast Land Use Plan notes that specific attention should be given by the state to eradicate non-native plant species that contribute to the decline of the natural beauty of Big Sur. Pampas grass, Kikuyu grass, broom, eucalyptus, and other species should be removed and replaced with native plants.

Affected Environment

Most of the project area has been altered by past highway and community development. Throughout the project area, exotic and invasive weeds such as pampas grass, Kikuyu grass, wild mustard, and fennel are present.

Impacts

The project would generate some excess soil that would be removed from the site and which may contain the seeds of invasive plants.

Avoidance, Minimization, and/or Mitigation Measures

A. In compliance with the Executive Order on Invasive Species, Executive Order 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project would not use species on the California List of Noxious Weeds.
B. Measures to control invasive exotic plants would be implemented according to the Caltrans Landscape Architect's recommendations. Exotic and invasive weeds such as ice plant, kikuyu grass, fennel, pampas grass, fountain grass, and other assorted invasive plants that are listed as "most invasive" on the list would be removed within the project area and topsoil would not be used in any revegetation areas due to the presence of a high quantity of weed seeds, unless a weed removal program is implemented.

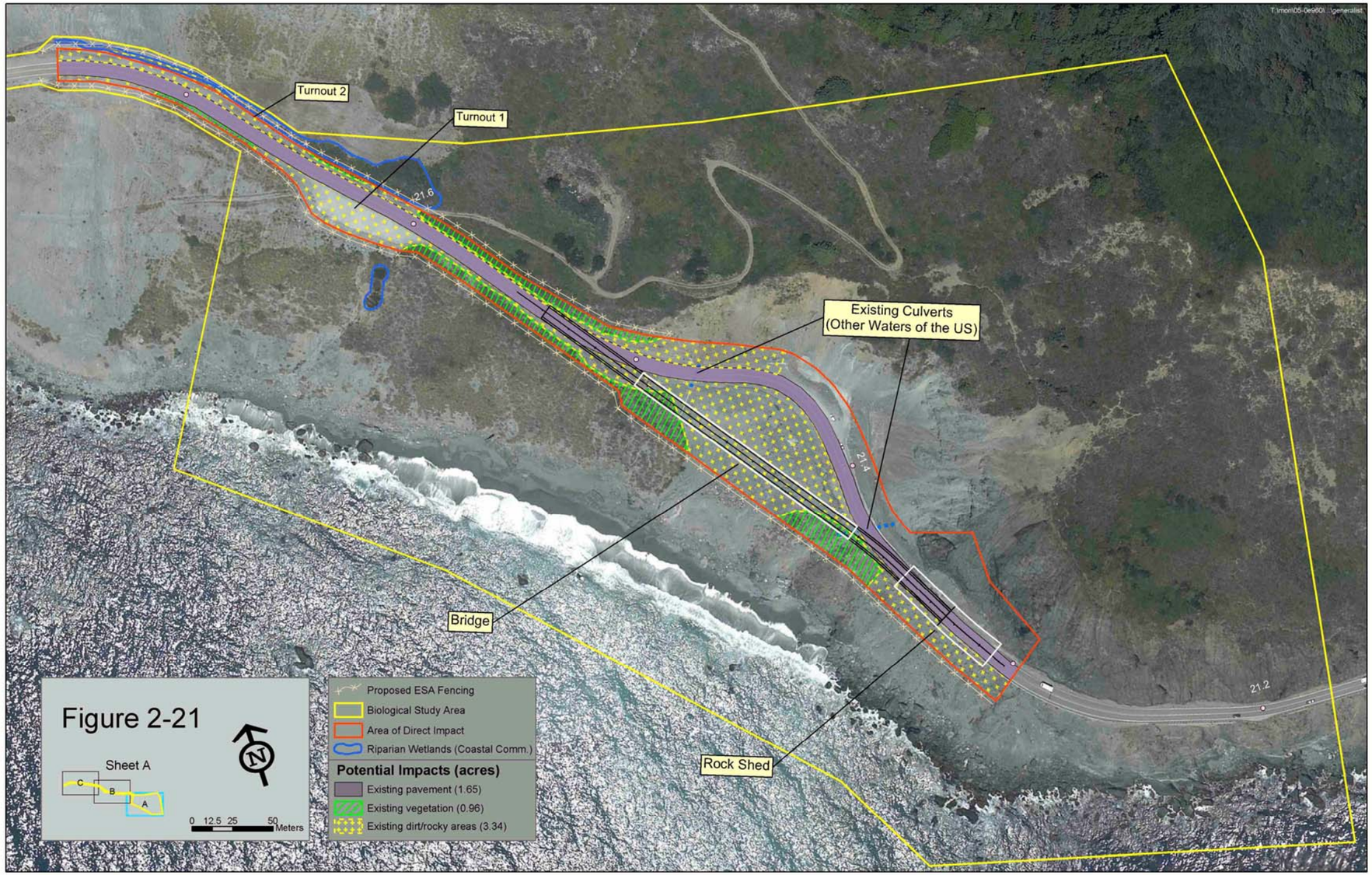

Figure 2-21 Sheet A

Figure 2-21 Sheet B

Figure 2-21 Sheet C

2.4 Construction Impacts

2.4.1 Introduction

The proposed bridge and rock shed would be very large structures and building them would be involved and challenging, particularly because the project site is remote and surrounded by steep slopes, which leaves little room to store equipment or operate outside the roadway. Consequently, portions of the roadway itself and eight paved turnouts, within a mile north of the project construction limits, have been identified for use during construction. Construction would require excavation, soil disposal, restriction of traffic to one lane through the project limits, occasional nighttime road closures, transport of large amounts of construction materials and heavy equipment, and increased noise and dust for an extended period of time. Avoidance and minimization measures have been incorporated into the project to ensure that impacts from these activities do not adversely affect the environment.

2.4.2 Construction Techniques

2.4.2.1 The Bridge

The bridge would be built on a new alignment, which would allow most of the construction to be completed off the existing roadway and two lanes of traffic to be maintained during the majority of construction. Temporary roads and benches would be graded below the new bridge to allow equipment to reach the location of the bridge foundations. The foundation shafts would be drilled, and perhaps blasted, and concrete would be poured to create the bridge abutments and piers. Once the foundation is in place, the bridge superstructure (columns, spandrels, girders, and the deck) would be built. The superstructure elements would be made of concrete, which would be either poured-in-place or pre-cast and transported to the construction site. After completion of the superstructure, the road to each end of the bridge would be aligned to meet the existing highway. The site would be recontoured and, perhaps, planted to maximize the visual quality and provide stabilization.

2.4.2.2 The Rock Shed

The rock shed would be built on the existing highway alignment, which would require the highway to be reduced to a single lane to allow room for construction. The single lane of traffic would be regulated by a traffic signal. The constrained working area would also require occasional full highway closures. Traffic would first be limited to use of the inside lane while the rock shed's outside columns were built.

After completion of the outside columns, traffic would be moved to the outside lane while the rock shed's mountainside structural elements were built. The roof panels of the rock shed would be placed last. All structural sections are expected to be pre-cast of concrete and transported to the project site in sections. The rock shed would eliminate the need for about 50 percent of the existing rock net and cable netting that is currently draped along the Rain Rocks mountainside. Unnecessary netting would be removed after the rock shed was constructed.

2.4.3 Excess Material

Both alternatives would require excavation and result in an excess of dirt. The vast majority of excavation would be a result of constructing the bridge; rock shed construction would require very little excavation. The total estimated volume of excavation anticipated (approximately 33,000 cubic meters [43,162 cubic yards]) is virtually the same for Alternative 1 and 2. Of the material excavated, a portion would be suitable to use as backfill. Backfill would be required for both alternatives; however, the rock shed (constructed as part of Alternative 1) would require a larger amount. Backfill would be required between the existing hillside and the inside surfaces of the proposed rock shed, as well as on the roof of the rock shed. This material would be obtained from the project excavation surpluses. Alternative 1 would use approximately 22,000 cubic meters (28,775 cubic yards) of surplus material for backfill. Alternative 2 would use approximately 11,000 cubic meters (14,387 cubic yards). The onsite use of excavated material as backfill would save project costs and construction difficulties and minimize project impacts by decreasing the volume of material that would need to be disposed of.[15]

Both alternatives would excavate more material than the amount used for backfill, resulting in excess material that would need to be stockpiled. Alternative 1 would create approximately 11,000 cubic meters (14,387 cubic yards) of material to be stockpiled. Alternative 2 would create approximately 22,000 cubic meters (28,775 cubic yards) of excess material.[23] Disposal sites are available within 15 miles of the project location to stockpile and dispose of excess material. Further assessment will explore the possibility of disposing excess material onsite. Erosion control and site restoration strategies for disposal sites would be consistent with the Coast Highway Management Plan's *Site Restoration Guidelines*.

[15] Mike Van De Pol, Caltrans Structures Design. June 20th, 2005.

Table 7. Excess Material

	Alternative 1	Alternative 2
Estimated volume to be excavated	33,000 cubic meters (43,162 cubic yards)	33,000 cubic meters (43,162 cubic yards)
Estimated volume used for backfill	22,000 cubic meters (28,775 cubic yards)	11,000 cubic meters (14,387 cubic yards)
Estimated volume of excess material	11,000 cubic meters (14,387 cubic yards)	22,000 cubic meters (28,775 cubic yards)

2.4.4 Traffic Impacts During Construction

Under both alternatives, traffic flow would be affected by the large amount of equipment and materials that would need to be transported over the highway and from lane closures needed to provide room for construction.

Alternative 1 would require that the project limits be restricted to a single lane, regulated by a signal, during much of construction. Alternative 2 would require restriction of traffic to one lane during realignment of the roadway. Both alternatives would require occasional full lane closures.

Large trucks transporting materials and equipment to and from the construction site would add to traffic impacts. Construction of Alternative 1 would require approximately 7,500 cubic meters (9,800 cubic yards) of concrete and pre-cast pieces delivered in approximately 850 truckloads. Construction of Alternative 2 would require approximately 5,000 cubic meters (6,540 cubic yards) of concrete and pre-cast pieces delivered in approximately 550 truckloads. However, these deliveries could be appropriately scheduled to minimize their impact.[23]

For both of the build alternatives, the sequence of construction would be planned and scheduled to minimize traffic delays. It is anticipated that two lanes of traffic would be maintained during the summer months, between Memorial Day and Labor Day. Restriction to one lane would occur only during non-summer months, between Labor Day and Memorial Day. In addition, traffic impacts would be minimized during non-summer months, by ensuring both lanes would be open on the day before and day of designated legal holidays. Activities that required both lanes of the highway to be closed would occur only at night to minimize traffic impacts. Transport of materials and equipment requiring large vehicles would be planned to minimize traffic delays by scheduling their transport during non-peak hours.

[23] Mike Van De Pol, Caltrans Structures Design. June 20th, 2005

A Traffic Management Plan would be developed to increase driver awareness, ease congestion, and minimize delay during construction. This would be undertaken in coordination with local tourist and commerce bureaus and businesses. The plan may include changeable message and construction area signs that would provide information to travelers regarding potential traffic delays and road closures. The local news media would be notified in advance of lane closures and other construction-related activities that could inconvenience local residents and travelers so they may plan accordingly. The project contract Special Provisions would require that emergency services (police, fire, and ambulance) be notified before any required roadway or lane closures.

2.4.5 Construction Duration

Construction of Alternative 1 is estimated to be 920 working days which, when scheduled to minimize traffic impacts, results in a construction duration period of about 4.5 years. Construction of Alternative 2 is estimated to be 820 working days which, when scheduled to minimize traffic impacts, results in a construction duration period of about 4.0 years.

2.4.6 Noise

A certain degree of disruptive noise is inevitable during construction activities. Specific construction noise levels have been estimated for the project based on the types of activities and equipment expected to be employed during construction. Caltrans Traffic Noise Analysis Protocols require consideration of noise abatement measures when predicted noise levels from a project substantially increase existing noise levels[24] or when the project noise levels approach or exceed the Noise Abatement Criteria[25] for residences. Predicted noise levels fall below the Noise Abatement Criteria levels for both alternatives. The Monterey County general plan classifies 50 A-weighted decibels (dBA), which are decibels adjusted to approximate the way humans perceive sound, as Noise Range I for passively used open spaces. A noise level that falls at or below Range I is considered normally acceptable.[26] This is the quietest category of noise ranges listed in the general plan.

[24] A substantial increase in noise level is considered to be 12 dBA or more.
[25] of 67-dBA (decibels on the A-weighted scale)
[26] Land Use Compatibility for Exterior Community Noise, Table 6. Monterey County General Plan.

The two receptors closest to the project site are the Camaldoli Hermitage, a monastic retreat, and Limekiln State Park, a state owned campground. Camaldoli Hermitage lies approximately 2,164 meters (7,100 feet) to the north and 335 meters (1,100 feet) above the project location. Limekiln Campground is approximately 671 meters (2,200 feet) to the south and 30 meters (99 feet) lower than the proposed construction location.

Table 8. Estimated Noise Impacts from Construction[27]

Location	Existing Peak Noise Level	Predicted Noise Level of Construction	Estimated Noise Level During Construction
Limekiln Campground	48 dBA	40 dBA	49 dBA
Camaldoli Hermitage	39 dBA	35 dBA	40 dBA

Currently, noise levels at Limekiln Campground during peak-hour traffic are approximately 48 dBA. Average construction noise levels are predicted to be 86 dBA at 100 feet from the proposed construction site. There is a 270-meter (880-foot) tall hill that separates the proposed construction site from Limekiln Campground, which, in conjunction with its distance from the project location, would serve to reduce noise levels at the campground. Based on average drop off rates (7.5 dBA per distance doubled) and the topography separating the construction from the campground, average construction noise levels at the campground are predicted to be approximately 40 dBA. This predicted construction noise is expected to raise the noise level at the campground by approximately 1 dBA; an increase that is imperceptible to the human ear (see Table 9: Decibel Addition). The resulting estimated noise level at the campground during construction is 49 dBA.

[27] Air, Noise, and Paleontology, Wayne Mills. July 2005.

Table 9. Decibel Addition[28]

When Two Decibel Values Differ By:	Add This Amount to the Higher Value:	Examples:
0 or 1 dBA	3 dBA	70+69 = 73 dBA
2 or 3 dBA	2 dBA	74+71 = 76 dBA
4 to 9 dBA	1 dBA	66+60 = 67 dBA
10 dBA or more	0 dBA	65+55 = 65 dBA

Currently, noise levels at Camaldoli Hermitage during peak-hour traffic are approximately 39 dBA. Average construction noise levels are predicted to be 86 dBA at 100 feet from the proposed construction site. In addition to the distance between the Hermitage and the project location, a mountain ridge acts as a natural sound barrier and would additionally reduce noise at Camaldoli Hermitage. Based on average drop off rates (7.5 dBA per distance doubled) and the topography separating the construction from the Hermitage, average construction noise levels at the Hermitage are predicted to be approximately 35 dBA. This predicted construction noise is expected to raise the noise level at the Hermitage by approximately 1 dBA; an increase that is imperceptible to the human ear (see Table 9: Decibel Addition). The resulting estimated noise level at the Hermitage during construction is 40 dBA.

Both Limekiln Campground and the Camaldoli Hermitage have predicted noise levels that fall below Range I as indicated in the Monterey County General Plan. Although neither of the two locations has predicted noise levels that would approach the Noise Abatement Criteria or experience a substantial increase in noise level, the following measures would be implemented to minimize noise impacts caused by construction.

- Equipment Noise Control: Newer equipment that is quieter would be used. All equipment items would have intact and operational manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators.
- Administrative Measures: Maintenance yard and other construction-oriented operations would be placed in the locations that would minimize disruption to the community.

[28] Technical Noise Supplement, October 1998.

- Community Relations: Good public relations would be maintained with the community to minimize objections to the impact of unavoidable construction noise. Community members and visitors would be notified in advance of the construction schedule through the public awareness campaign.

2.4.7 Water Quality

The project is located in the Santa Lucia Hydrologic Unit (308) along the Big Sur coast. In the project area, the oceanic waters are included in the Monterey Bay National Marine Sanctuary. Primary impacts could occur from exposure of loose soil during excavation, grading, and filling activities during construction. The suspended solids, dissolved solids, and organic pollutants in surface water bodies could increase while nearby soils are disturbed and dust is generated.

Accidental spills of petroleum hydrocarbons (fuels and lubricating oils), sanitary wastes, and or concrete waste are also a concern during construction activities. An accidental release of these wastes could adversely affect surface water quality, vegetation, and wildlife habitat.

During construction, a Storm Water Pollution Prevention Plan would be implemented to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges and to describe and ensure the implementation of Best Management Practices, used to reduce or eliminated sediment and other pollutants in storm water as well as non-storm water discharges. Additional Best Management Practices may also be implemented if determined necessary during construction to reduce or eliminate the potential for a non-storm water discharge to occur during construction. The following list includes some of these measures available to the Resident Engineer.

- Temporary Sediment Control
- Temporary Soil Stabilization
- Temporary Concentrated Flow Conveyance Systems
- Scheduling
- Clear Water Diversion
- Dewatering Operations
- Wind Erosion Control

- Sediment Tracking Control
- Solid Waste Management
- Materials Handling
- Concrete Waste Management
- Vehicle and Equipment Operations
- Paving Operations
- Stockpile Management
- Water Conservation Practices
- Illicit Connection/Illegal Discharge Detection and Reporting
- Storm Drain Inlet Protection
- Contaminated Soil Management

2.4.8 Air Quality

The proposed project is in the North Central Coast Air Basin, which is composed of Santa Cruz, San Benito, and Monterey Counties. Monterey Bay Unified Air Pollution Control District is responsible for maintaining air quality in the North Central Coast Air Basin.

Construction activity would disturb the soil, causing a temporary increase in air emissions during the construction period. Particulate matter can originate from construction equipment exhaust and the grading of soil. The Monterey Bay Unified Air Pollution Control District considers construction emissions of greater than 82 pounds (37.2 kilograms) per day of particulate matter to have a significant effect on air quality. The emissions for the proposed project are expected to be well within Monterey Bay Unified Air Pollution Control District's daily air pollutant emissions thresholds. Predicted emissions for this project from grading and excavating are 26 pounds (11.8 kilograms) per day.[29]

Daily watering would minimize temporary airborne emissions from the construction of the proposed project. There are further measures approved by the Monterey Bay

[29] Air, Noise, and Paleontology. Wayne Mills, July 2005.

Unified Air Pollution Control District available to the Resident Engineer to further reduce particulate matter emissions. This list would be provided to the Resident Engineer who would determine when measures from the list should be used if daily watering is insufficient to minimize particulate emissions.

2.4.9 Appearance of Site and Surrounding Area

Construction disruption, which includes earth movement, distracting activities, and storing equipment and material, is unavoidable but not permanent. Material storage areas would be kept neat and as inconspicuous as possible. When practicable, broken concrete and debris developed during clearing and grubbing would be disposed of concurrently with its removal. If stockpiling of soil were necessary, the material would be removed or disposed of weekly. Any construction debris would be placed in trash bins daily. Forms or falsework that are to be re-used would be stacked neatly concurrently with their removal. Forms and falsework that are not to be re-used would be disposed of concurrently with their removal. Visual impacts caused by construction activity are temporary effects that would cease upon completion of the project.

2.4.10 Cultural Resources

No prehistoric or historic archaeological resources were identified within the project study area. If archaeological remains were found during construction, earth-moving operations would be halted in the vicinity of the discovery. Construction operations would not resume in the discovery area until the District Archaeologist Coordinator (or other qualified archaeologist) has the opportunity to review the site.

2.4.11 Paleontological Resources

No paleontological resources were identified within the project study area. If any vertebrate or plant fossil remains are found during construction operations, it is required that construction be halted in the immediate vicinity of the discovery (10 meters [33 feet]) until the District Paleontology Coordinator has the opportunity to review the site.

2.4.12 Hazardous Waste

No hazardous materials are expected to be encountered during construction. However, if hazardous materials were discovered during construction operations,

formal procedures specified by the Department Headquarters Hazardous Waste Management Section would be implemented immediately. All hazardous materials involvement would be coordinated with the appropriate federal, state, and local regulatory agencies.

Chapter 3 California Environmental Quality Act Evaluation

3.1 Determining Significance Under the California Environmental Quality Act

Refer to the discussion in the Summary regarding the differences between the state and federal requirements and the roles of the Federal Highway Administration and Caltrans.

3.2 Discussion of Significant Impacts

3.2.1 Significant Environmental Effects of the Proposed Project

The following impacts would have a significant effect on the environment:

- Change in the visual character of the project location with Alternative 1. (Refer to Sections 2.1.1 and 2.1.4 for further discussion.)

3.2.2 Unavoidable Significant Environmental Effects

The rock shed feature of Alternative 1 would be a substantial structure that is highly visible, distinctive, and unexpected in the magnificent natural setting of the Big Sur coast and on the state scenic highway. Measures are proposed to mitigate the aesthetic character of the rock shed. It is not possible, however, to hide this structure from view, minimize its scale to be subordinate to the natural character of the land, nor blend its features to fully harmonize with the scenic qualities of the Big Sur coast.

3.3 Mitigation Measures for Significant Impacts Under the California Environmental Quality Act

Extensive measures are proposed to avoid, minimize, and mitigate the significant visual impacts associated with the addition of a rock shed to the state scenic highway. These measures are presented in Section 2.1.4 and Appendix C.

Chapter 4 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings and interagency coordination meetings. This chapter summarizes the results of Caltrans efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Notice of Preparation and Scoping Meeting

A Notice of Preparation was sent to 21 state and federal agencies and the State Clearinghouse on October 22, 2003. The Notice of Preparation informed the recipients of Caltrans intention to prepare an Environmental Impact Report and provided the project description, alternatives under consideration, and the environmental resources the project had potential to impact. The agencies were asked to provide the relevant scope and content of the environmental information they required, including their agency's permit and environmental review requirements. It also included an invitation to attend a scoping meeting. Recipients were alerted to the state law requiring submittal of their comments to Caltrans no later than 30 days after receipt of the Notice of Preparation. Appendix D contains correspondence relevant to the Notice of Preparation, scoping process, and meeting.

In addition to the state and federal agencies that received the Notice of Preparation, the scoping meeting announcement was sent to approximately 350 local, state, and federal agencies, interested organizations, and individuals. A public notice announcing the meeting was placed in the *Monterey Pine Cone* and *Big Sur Roundup.*

The scoping meeting was held on November 19, 2003 at the Big Sur Lodge in Big Sur. The meeting provided an opportunity for attendees to view informational displays, interact with Caltrans staff, and participate in a presentation and question/answer period. Eight agency representatives and public members attended the meeting and provided verbal comments.

In response to the Notice of Preparation, written comments were received from the following agencies:

- Monterey Bay Unified Air Pollution Control District
- Monterey County Planning and Building Department
- Monterey Bay National Marine Sanctuary
- Association of Monterey Bay Area Governments
- California Coastal Commission
- Department of the Army, U.S. Army Corps of Engineers

4.2 Project Development Team Meetings

The Project Development Team is composed of key members of the Caltrans staff and external stakeholders. The team acts as a steering committee and decision-making body in directing the course of studies required for developing and evaluating project alternatives. The team met on November 19, 2002 and June 10, 2003 to review and provide direction on project progress.

External members of the Highway 1 Improvements at Pitkins Curve and Rain Rocks included representatives from the following agencies and organizations:

- Monterey County Department of Public Works
- Monterey County Department of Planning and Building Inspection
- Transportation Agency of Monterey County
- California Coastal Commission

4.3 Interagency Coordination

Monterey County

A field visit to Pitkins Curve/Rain Rocks and a presentation was made to the Big Sur and North County Land Use Advisory Committees of Monterey County on July 23, 2002. Representatives from Monterey County Office of Planning and Building Inspection, the Monterey Bay National Marine Sanctuary, and the Coastal Commission were also present. The project need and purpose, the range of

alternatives, and the potential environmental impacts were discussed. Permit requirements were presented.

Big Sur Multi-Agency Advisory Council

Caltrans staff made a presentation on the project to the Big Sur Multi-Agency Advisory Council on February 6, 2004. The Council is made up of representatives from three local organizations, six local, state, and federal agencies, and one each from the State Assembly, State Senate, and United States Congress[30]. They meet quarterly to discuss development and management topics relevant to the Big Sur coastal area.

The project's description, need, purpose, range of alternatives, potential environmental impacts, schedules, and costs were presented to the Council. The Council was offered an opportunity to provide written or verbal comments. The Council made a request that subsequent project meetings be held in the south coast portion of the County, since the residents there are affected by the project. Concerns were raised about traffic control and detour information during construction.

California Department of Fish and Game

Caltrans requested technical assistance from the California Department of Fish and Game regarding the project's potential to affect the southern sea otter and California condor. The Department concluded that the project would have No Effect to these species or associated critical habitat.

U. S. Geological Survey

Caltrans requested technical assistance from the United States Geological Survey regarding the project's potential to affect the southern sea otter. The Survey concluded the project would have No Effect to this species or its habitat.

U. S. Fish and Wildlife Service

Caltrans requested technical assistance from the United States Fish and Wildlife Service on the potential for the project to affect the California condor, Smith's blue butterfly, and the southern sea otter. The Service concluded that the project would have No Effect on these species or associated critical habitat.

[30] The Big Sur Multi-agency Advisory Council is made up of representatives from the following entities: Big Sur Resident Member, Big Sur Chamber of Commerce, Coast Property Owner's Association, Monterey County Planning and Building Inspection, Monterey County Board of Supervisors, Monterey Peninsula Regional Park District, California Coastal Commission, Caltrans, California State Parks and Recreation, Monterey Bay National Marine Sanctuary, Unites States Forest Service, 27th District State Assembly, 15th District State Senate and the Unites States Congress.

National Oceanographic and Atmospheric Administration Fisheries Service

Caltrans requested technical assistance from the National Oceanographic and Atmospheric Administration Fisheries Service regarding the project's potential effect on the southern sea otter. The Service concluded that the project would have No Effect on this species.

Chapter 5 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

Karen Bewley, Environmental Planner. B.A., Environmental Studies. 1 year experience in environmental planning. Contribution: Construction Impacts.

Bob Carr, Landscape Associate. B.S., Landscape Architecture; 15 years experience in visual impact analysis and landscape architecture. Contribution: Visual Impact Analysis.

Eric Covington, Transportation Engineer. B.S., Environmental Engineering; 6 years experience in environmental engineering studies. Contribution: Initial Site Assessment for Hazardous Materials.

Zeke Dellamas, Project Engineer/Storm Damage Coordinator, PE. B.S., Civil Engineering. 11 years experience in transportation engineering and storm damage response. Contribution: History of highway restoration.

John Duffy, Geologist. B.S., Geological Engineering. 28 years experience in geotechnical evaluation and engineering. Contribution: Preliminary Geotechnical Report.

Rajeev L. Dwivedi, Engineering Geologist. M.S., Geology; M.S., Civil Engineering; Ph.D., Environmental Sciences; 17 years experience in conducting water quality research and analysis. Contribution: Water Quality Report.

David J. Ewing, Graphic Designer II. B.A., Graphic Design; 12 years experience in graphic design. Contribution: Created graphic illustrations and mapping.

Krista Kiaha, Associate Environmental Planner/Archaeologist. B.A., Anthropology; M.A., Anthropology; 10 years experience in North American archaeology. Contribution: Prepared the cultural resources studies.

John Luchetta, Senior Environmental Planner. B.S., Natural Resources Management; 16 years experience in environmental analysis and document preparation. Contribution: Supervision and review of Environmental Impact Report and various technical studies.

Ruth A. McCuen, Graphic Designer III. Fine Art/Design major; 35 years experience in graphics arts and design. Contribution: Created graphic illustrations and mapping.

Wayne W. Mills, Transportation Engineer. B.A., Earth Science; B.A., Social Sciences; 21 years experience in air quality and noise studies; 8 years experience in paleontology studies. Contribution: Air Quality, Noise, and Paleontology Study.

Steve Price, Deputy District Director Maintenance and Operations. B.S., Civil Engineering, Professional Engineer (P.E.); 25 years experience in transportation engineering. Contribution: Project Sponsor.

James Perano, Senior Transportation Engineer. B.S., Civil Engineering; 24 years experience in transportation engineering. Contribution: Design Senior.

David Rasmussen, Senior Project Manager. B.S., Civil Engineering; 15 years experience in civil engineering, highways, construction and project management. Contribution: Project Manager.

Amir Saedi, PE, Caltrans Design Engineer. B.S., Civil Engineering; 12 years experience in design and civil engineering. Contribution: Design Engineer.

Ed Schefter, Senior Transportation Surveyor, GIS/GPS Specialist; 20 years experience surveying, impact analysis, and mapping. Contribution: Impact analysis and mapping.

Lisa Schicker, Associate Environmental Planner/Natural Sciences. B.A., Biology; M.L.A. Landscape Architecture, Coastal Ecology and Environmental Management. 25 years experience in environmental planning and biological studies. Contribution: Natural Environment Study.

Wendy Waldron, Associate Environmental Planner. B.A., Anthropology; 12 years experience in environmental analysis and documentation; 20 years experience in California archaeology. Contribution: Environmental Impact Report analysis and preparation.

Chapter 6 Distribution List

Table 10. Name and Affiliation of Notice of Availability of Draft Environmental Impact Report Recipient

First Name	Last Name	Title	Organization
Sam	Farr		Property Owner
Elizabeth	Henkle		Property Owner
			Big Sur Library
			Monterey County Library
State Clearinghouse			Office of Planning & Research
			San Luis Obispo County Library
Rick	Hanks	National Monument Manager	Bureau of Land Management
Gary	Hamby	Division Administrator	Federal Highway Administration
Jeannie	Derby	Forest Supervisor	Los Padres National Forest Supervisor's Office
Bill	Douros	Superintendent	Monterey Bay National Marine Sanctuary
Karin	Strasser Kauffman		Monterey Bay National Marine Sanctuary - Advisory Council
Cheryl	Hapke		Pacific Science Center of USGS/UCSC
Tom	Kendall	Chef, Planning Branch	U.S. Army Corps of Engineers
Calvin	Fong	Regulatory Branch Chief	U.S. Army Corps of Engineers
Becky	Tuden		U.S. Environmental Protection Agency
Diane	Gunderson	Fish & Wildlife Biologist	U.S. Fish & Wildlife Service
Catrina	Martin	North Coast Field Supervisor	U.S. Fish & Wildlife Service
David	Pereksta	Fish and Wildlife Biologist	U.S. Fish & Wildlife Service, Ventura Office
Jeff	Kwasny	Resource Officer	U.S. Forest Service
John S.	Bradford	Monterey District Ranger	U.S. Forest Service Los Padres National Forest
Robert	Kayen		U.S. Geological Survey
Homa	Lee	Chief Scientist	U.S. Geological Survey
Albert	Cerna, Jr.		U.S.D.A Natural Resource Conservation Services
Tim	Vendlinski		Wetland's Regulatory Office (WTR-8) U.S. Environmental Protection Agency, Region 9
Alec	Arago	Aide to Congressman Farr	U.S. Congress - 17th Dist.
Sam	Farr	Congressman	U.S. Congress - 17th Dist.
Lois	Capps	Congressman	U.S. Congress - 22nd Dist.
Mark	Blum		El Sur Ranch
Larry	Horan		El Sur Ranch
Roger	Lyon		Hearst Ranch
Nick	Papadakis	Executive Director	Association of Monterey Bay Area Governments
			Carmel Land Use Advisory Committee
			Monterey Bay Unified Air Pollution Control District
Sarah	Hardgrave		Monterey County Planning General Plan Update Team
Scott	Hennessy	Director	Monterey County Planning & Building Dept.
Jeff	Main	Supervising Coastal Planner	Monterey County Planning & Building Dept.
Martha	Diehl		Monterey County Planning Commission
Tom	Lockhart		Monterey County Resource Conservation District
Joe	Moses		Monterey County Supervisor's Office
Harry	Robins	Emergency Services Manager	Monterey County, Office of Emergency Services
Jess	Mason	Sheriff	Monterey County, Sheriff's Dept.

First Name	Last Name	Title	Organization
Tim	Jensen	Special Projects & Planning Mgr	Monterey Peninsula Regional Park District
Joseph	Donofrio	General Manager	Monterey Peninsula Regional Parks Dist.
Richard	Macedo	Legislative Assistant, District 2	San Luis Obispo Board of Supervisors
Ron	DeCarli	Executive Director	San Luis Obispo Council of Governments
Victor	Holanda	Planning Director	San Luis Obispo County, Planning Dept.
Bill	Reichmuth	Executive Director	Transportation Agency of Monterey County
Dave	Potter	Supervisor	Monterey County, District 5
Shirley	Bianchi	Supervisor	San Luis Obispo County, District 2
			Big Sur Round-Up
			Carmel Pine Cone
			Coast Weekly
			KSBW - TV 8
			KSBY
			Monterey County Herald
			The Salinas Californian
			The Salinas Californian and El Sol
			American Cetacean Society, Monterey Bay Chapter
Henry	Hanka		America's Byways Resource Center
Erin Lee	Gafill	Executive Director	Big Sur Arts Initiative
			Big Sur Health Center
Howard	Strohn		Big Sur Historical Society
Zad	Leavy	General Counsel	Big Sur Land Trust
			Big Sur Land Use Advisory Committee
Mary Ann "Corky"	Matthews	Conservation Chair	CA Native Plant Society
Lesley	Ewing	President	CA Shore and Beach Preservation Association
David	Chipping		Cal Poly
Jim	Allen		Cambria Chamber of Commerce
Suzy	Ficker		Cambria Legal Defense Fund
			Captain Cooper School
Honey	Williams		Carmel Highlands Association
James	Rossen		Carmel Highlands Fire District
Captain	McDonald		Carmel Highlands Fire Station
			Carmel Residents Association
			Carmel River School
Mark	Christensen	Chairman	Carmel River Watershed Council
Kaitilin	Gaffney	Central Coast Program Director	Center for Marine Conservation
Mike	Caplin	President	Coast Property Owner's Association
			Coast Watch
Ann	Bertken	Chair	Coastal Watershed Council
Tony	Cerda	Chairperson	Coastanoan Rumsen Carmel Tribe
Richard	Nichols	Executive Director	Coastwalk
Tom	Nason	Tribal Chair	Esselen Tribe
Ken	Ekelund	Watershed Coordinator	Garrapata Creek Watershed Council
			Henry Miller Library
Randall	Dennis	Founder	Highway One Museum
Gary A.	Patton	Executive Director	LandWatch Monterey County
Gwen	Henry		League of Women Voters
Ken	Wright		Monterey County Convention and Visitor's Bureau
Susan	Elliot	Executive Director	Monterey County Film Commission
Kim	Kimball	Executive Manager	Morro Bay Chamber of Commerce
Jim	Oakden		Moss Landing Marine Labs
Claudia	Harmon		North Coast Advisory Council (SLO County)
Cat	McConnell		North Coast Advisory Council/CCSD
			Ohlone Tribe
Rudy	Rosales	Tribal Chair & Cultural Resources	Ohlone-Costanoan-Esselen Nation (OCEN)
W.F. "Zeke"	Grader, Jr.	Executive Director	Pacific Coast Fed. Of Fishermen's Assoc.
			Pacific Valley School

First Name	Last Name	Title	Organization
Ben	Strumwasser	Principal	Public Affairs Management
Paul	Kephart		Rana Creek Habitat Restoration
Robert & Carolee	Cross		Red Cross
David	Dilworth		Responsible Consumers of the Monterey Peninsula
John	Courtney	Vice President	Robinson Jeffers Foundation
			Salinan Nation
			San Luis Land Conservancy
David	Garth	Executive Director	San Luis Obispo Chamber of Commerce
Michael R.	Hanchett		San Simeon Chamber of Commerce
Glenda	Nelson	Executive Director	Save Our Shores
Ian	Moore	Executive Director	Scenic California
Pat	Veesart		Sierra Club Santa Lucia Chapter
			Sierra Club, Ventana Chapter
			South Coast Land Use Advisory Committee
Scott	Kimura		Tenera Environmental
Emily	Tibbott		The Nature Conservancy
			Ventana Wilderness Alliance
			Ventana Wilderness Sanctuary
Jim	Davis	Executive Director	Ventana Wilderness Society
Wendi	Newman		Watershed Institute
Rick	Aldinger		Big Sur Campground
Joanne	Redici		Big Sur Center Deli
Laura	Moran	President	Big Sur Chamber of Commerce
Chris	Sutton		Big Sur Grange
Stan	Russell		Big Sur Internet
Reed	Cripe		Big Sur Magazine
Janet	Lesniak		Big Sur River Inn
Helmuth	Morganwrath		Blaze Engineering
			Carmel High School
Gary	Paddock	Owner	Carmel Valley Construction
			Crossroads Shopping Center
			Deetjens
Bettie Sue	Walters		Deetjen's
Andy	Nusbaum		Esalen Institute
Bruce	Whale		Esalen Institute
Bob	Robinson		Fernwood
Lydia	Bergen	PISCO Policy Coordinator	Long Marine Lab
Bill	Henry		Morro Group
Kirk	Gafill	General Manager	Nepenthe
John	Leding		Pacific Monarch, Ltd.
			Quail Lodge
James	Ramey	General Manager	Ragged Point Inn
D.	Passovey		RRI
Kathe	Tanner		The Cambrian
Frank	Pinney	Chief	Big Sur Fire Brigade
Sean	Grauel		Cambria Community Services District
Cheryl	Goetz	Chief	Mid Coast Fire Brigade
Molly A.	Joest	Director - External Affairs	Pacific Bell
Jim	Kimball		Pacific Valley Unified School District
Leon	Panetta		Panetta Institute for Public Policy, CA State University, Monterey Bay
Eddie	Marquez	Government Relations Rep.	PG&E
Forrest	Warren		San Simeon Community Services District
Dan	Stefanifko	Ranger	Andrew Molera State Park
			Asilomar State Beach
Jeff	Frey		Big Sur State Park
Charles	Lester	Deputy Director	CA Coastal Commission
Lee	Otter	Coastal Program Analyst	CA Coastal Commission

First Name	Last Name	Title	Organization
Kim	Sterrett		CA Dept. of Boating & Waterways
Fred	Botti	Environmental Specialist	CA Dept. of Fish & Game
Greg	Smith	Coastal Sector Supt.	CA Dept. of Parks & Recreation
Lois	Harter	Park Superintendent	CA Dept. of Parks & Recreation, Monterey District
Glen	McGowan	Supervising Ranger	CA Dept. of Parks & Recreation, Point Lobos
Gary	Hughy		CA Dept. of Parks & Recreation/MBNMS
Dan	Eller	Public Relations Officer	CA Dept. of Parks & Recreation Hearst Castle
Chris	Wills		CA Geological Survey
Don	Follett		CA Highway Patrol, Monterey Area
Matt	Thompson	Associate Water Resource Control Engineer	CA Regional Water Quality Control Board
Neal	Fishman	Deputy Executive Officer	CA State Coastal Conservancy
			CA State Historic Preservation Office
Nanci	Smith		CA State Lands Commission
Gretchen	Brigaman		CA Trade & Commerce Agency
Dominic	Gregorio		Division of Water Quality State Water Resources Control Board
			Hearst Castle Historical Monument
			Point Lobos State Reserve
Gary	Nelson		Pt. Sur State Historic Park
John	Laird	Assembly member	CA State Assembly, 27th District
Gary	Shallcross	Aide to Assembly member Laird	CA State Assembly, 27th District
Abel	Maldonado	Assembly member	CA State Assembly, 33rd Dist.
Bruce	McPherson	Senator	CA State Senate, 15th Dist.
Jeff	Norman	Resident Representative	Big Sur Multi-Agency Advisory Council
Hoyt	Fields	Interim Museum Dir./Supt.	San Luis Obispo Coast District

Appendix A California Environmental Quality Act Checklist

The following checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The California Environmental Quality Act impact levels include “potentially significant impact,” “less than significant impact with mitigation,” “less than significant impact,” and “no impact.”

The California Environmental Quality Act requires that environmental documents determine significant or potentially significant impacts. In many cases, background studies performed in connection with the project indicate no impacts. A mark in the “no impact” column of the checklist reflects this determination. Any needed explanation of that determination is provided at the beginning of Chapter 2.

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
AESTHETICS - Would the project:				
a) Have a substantial adverse effect on a scenic vista?		X		
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?		X		
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	X			
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?		X		
AGRICULTURE RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X
AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	X	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	X	☐
d) Expose sensitive receptors to substantial pollutant concentration?	☐	☐	☐	X
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	X
BIOLOGICAL RESOURCES - Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	X
C) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	X	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
COMMUNITY RESOURCES - Would the project:				
a) Cause disruption of orderly planned development?				X
b) Be inconsistent with a Coastal Zone Management Plan?				
c) Affect lifestyles or neighborhood character or stability?				X
d) Physically divide an established community?				X
e) Affect minority, low-income, elderly, disabled, transit-dependent, or other specific interest group?				X
f) Affect employment, industry, or commerce, or require the displacement of businesses or farms?				X
g) Affect property values or the local tax base?				X
h) Affect any community facilities (including medical, educational, scientific, or religious institutions, ceremonial sites or sacred shrines?				X
i) Result in alterations to waterborne, rail, or air traffic?				X
j) Support large commercial or residential development?				X
k) Affect wild or scenic rivers or natural landmarks?				X
l) Result in substantial impacts associated with construction activities (e.g., noise, dust, temporary drainage, traffic detours, and temporary access, etc.)?		X		
CULTURAL RESOURCES - Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
GEOLOGY AND SOILS - Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:		X		
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?		X		
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?		X		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.				X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	X	☐
HAZARDS AND HAZARDOUS MATERIALS - Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	X
c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	X	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	X
HYDROLOGY AND WATER QUALITY - Would the project:				

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	X	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or offsite?	☐	☐	☐	X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite?	☐	☐	☐	X
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	X
f) Otherwise substantially degrade water quality?	☐	☐	☐	X
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	X
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	X
j) Result in inundation by a seiche, tsunami, or mudflow?	☐	☐	☐	X

LAND USE AND PLANNING - Would the project:

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Physically divide an established community?	☐	☐	☐	X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	X	☐	☐	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	X
MINERAL RESOURCES - Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	X
NOISE - Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	X	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
POPULATION AND HOUSING - Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
PUBLIC SERVICES -				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	X
Police protection?	☐	☐	☐	X
Schools?	☐	☐	☐	X
Parks?	☐	☐	☐	X
Other public facilities?	X	☐	☐	☐
RECREATION -				

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	X
TRANSPORTATION/TRAFFIC - Would the project:				
a) Cause an increase in traffic which his substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	X
c) Result in a change in air traffic patters, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incomplete uses (e.g., farm equipment)?	☐	☐	☐	X
e) Result in inadequate emergency access?	☐	☐	☐	X
f) Result in inadequate parking capacity?	☐	☐	☐	X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	X
UTILITY AND SERVICE SYSTEMS - Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	X
e) Result in determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X
MANDATORY FINDINGS OF SIGNIFICANCE -				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	X
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	X	☐	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	X	☐

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
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SACRAMENTO, CA 94273-0001
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Flex your power!
Be energy efficient!

January 14, 2005

TITLE VI
POLICY STATEMENT

The California Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, and age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

WILL KEMPTON
Director

"Caltrans improves mobility across California"

Appendix C Minimization and/or Mitigation Summary

Section Number Reference	Mitigation Reference	Mitigation Commitments
2.1.4 Visual/ Aesthetics	A	Design the structures with the highest quality architectural and engineering practices and considerations, acknowledging the existing historic bridges of the Big Sur Coast and using current state-of-the-art technology.
	B	Involve the community in the design of all structures, walls, barriers, and other project aesthetics through the creation of an Aesthetic Design Advisory Committee.
	C	Consider using a high level of architectural detailing when designing structures.
	D	Use an open-style safety rail that minimizes view blockage.
	E	Use finish colors and textures that minimize reflectivity and glare.
	F	To the greatest extent possible, use an “honest use of materials” philosophy that avoids the use of obviously “fake” materials, such as materials that are concrete formed and colored to look like wood, etc.
	G	Re-contour all disturbed areas and construction access roads to a natural appearance.
	H	Vegetate all stabilized soil areas with native shrubs and grasses. Include planting where possible around all exposed drainage pipes, permanent access roads, and retaining walls (except the interior of the rock shed).
	I	Integrate existing rock outcroppings and stone landforms into the design to the greatest extent possible.
	J	Minimize the use of signage and reflectors to the minimum required by the Manual of Uniform Traffic Control Devices with concurrence from Caltrans Traffic Design.
	K	Do not use asphalt or concrete paving beyond the proposed 4-foot shoulders. If additional paving is required, alternative natural appearing surfaces such as soil cement would be used.
	L	Color additional rock netting or mesh, if required, completely black, including all integral connectors.
	M	Bury all overside drains and inlet structures or hide them from view to the greatest extent possible. Where unavoidably exposed to view, color the pipes to reduce noticeability, and dull the gloss of the finish.
	N	Color all paved ditches to reduce noticeability
	O	Where metal beam guardrail is required, use measures to reduce reflectivity of the metal components.
	P	If paving is required beyond the paved portion of the roadway, use alternative natural appearing surfaces, such as soil cement. If a safety barrier is required at the perimeter of the pullout or parking area, design it to complement the other project structures. If boulders are used, half-bury them into the soil to appear natural
	Q	If pedestrian or bicycle railing is required, design it with materials, form, and colors to minimize noticeability and ocean view blockage, and to complement the bridge and rock shed architecture.
	R	Minimize the tight, enclosed spatial characteristics of the rock shed to the greatest extent possible through measures such as: a. Reducing the number of columns, b. Reducing the thickness of the columns, c. Raising the “ceiling” height of the structure, d. Aligning the inside retaining wall (closest to the uphill slope) as far from the highway lanes as possible. e. Allowing the entry portals openings to be as large as feasible and still architecturally appropriate.

Section Number Reference	Mitigation Reference	Mitigation Commitments
	S	Minimize visibility of all light sources associated with the rock shed from offsite viewpoints by: a. Using recessed lights and shielded lenses, b. Using the minimum number and wattage of lights required by policy. c. Consider using motion detector-activated lights to eliminate light pollution when no vehicles or bicyclists are present.
	T	Design the length of the rock shed and the form of the parapet walls at the portals so that no personnel fencing or railings are visible from the highway.
	U	Consider using a ledger beam to support the rock shed roof connection to the hill rather than a full-height retaining wall, so that the native rock face of the hill would be exposed to highway viewers.
	V	Disguise to the greatest extent possible any permanent road required to the roof of the rock shed for maintenance access. Also disguise any necessary gate by making it appear as a natural landform or screening it with berms and/or naturally appearing boulders and native vegetation if possible.
	W	Retrofit or replace the existing bridge rail on the Rain Rocks viaduct to complement the new bridge and rock shed structures
2.3.1 Natural Communities	A	To minimize construction-related impacts, Environmentally Sensitive Areas would be delineated on the project plans around all pullouts that may be used for equipment storage, as indicated on Figure 2-21A-C. The Resident Engineer, in consultation with the project biologist, would determine where Environmentally Sensitive fencing would be installed to limit construction activities.
	B	After construction is complete, the project area would be evaluated to determine where revegetation would be appropriate and successful. Those areas identified for revegetation would be planted with native vegetation, suitable for the area, as recommended by Caltrans Office of Landscape Architecture and in consultation with the project biologist. Vegetation would be replaced at a ratio of 1:1. Plant salvage, local seed collection, and contract growing are techniques that can be used to mitigate for the loss of native shrubs that are removed.
	C	An installation and maintenance contract for mitigation plantings would be developed. The maintenance agreement shall be at least three years in length. During that time, all invasive weeds should be regularly removed. A 70% survival rate for of all plantings, three years post-construction, would be the target goal.
	D	A Caltrans biologist or designee would prepare monitoring reports for various agencies if they are needed as part of conditions set forth in permits. Annual reports summarizing results would be sent to any requesting and appropriate state and federal agencies.
	E	A Mitigation, Monitoring, Restoration, and Success Criteria Plan shall be prepared for this project. The plan would include success criteria for revegetation. A three-year monitoring schedule, with annual reports to various agencies is typically recommended. For three years, biannual environmental monitoring for all mitigation plantings would be conducted to determine if the project meets success criteria, to request any needed replacement plantings, and to identify remedial actions if the success criteria were not achieved.
2.3.2 Wetlands and Other Waters	A	To ensure that all potential impacts to wetland resources are avoided and minimized, Environmentally Sensitive Area fencing would be installed to protect coastal wetlands, as delineated in Figure 2-21 A-C. The mapped locations of the Environmentally Sensitive Areas would be included on the project plans and layout sheets and included in the Special Provisions of the construction contract. All fencing would be placed at the direction of the Resident Engineer, in consultation with a representative from the Environmental Branch.
	B	All refueling and maintenance of equipment shall be conducted at least 20 meters (60 feet) from wetlands and waters of the U.S.
	C	Prior to the onset of work, the Resident Engineer would insure that the contractor has prepared a plan for prompt and effective response to any accidental spills, to ensure protection of aquatic resources. All personnel would be informed of the plan and the importance of preventing spills.
	D	All construction activities would be completed in accordance with the Caltrans National Pollution Discharge Elimination System Permit, the General Construction Permit, and Caltrans Statewide Storm Water Management Plan.

Section Number Reference	Mitigation Reference	Mitigation Commitments
	E	To protect all adjacent springs, seeps, willow riparian wetlands, and the Pacific Ocean, Caltrans would implement best management practices, as identified by the appropriate Regional Water Quality Control Board. These best management practices would be implemented to minimize or eliminate the potential for a non-storm water discharge to occur. Construction site best management practices are addressed in detail in the Storm Water Pollution Control Plan that will be developed for the project site.
	F	If a work site is to be temporarily de-watered by diversion or pumping, intakes would be completely screened with wire mesh not larger than five millimeters to prevent all aquatic wildlife from entering the pump system. Water would be treated, released, or pumped to an appropriate location at a rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.
	G	Due to the time that will elapse before project construction and because the biological environment in the project area is subject to change, pre-construction surveys would be undertaken approximately one year prior to construction to identify up-to-date distribution of wetlands. If wetland presence or distribution has changed from that documented in the April 2005 Natural Environment Study, the appropriate agencies would be consulted. All avoidance, minimization, and mitigation measures would be applied, as directed above, to newly identified wetlands.
	H	A biological/environmental monitor would be present onsite during construction activities that may impact the ocean and marine environment, special-status species, and/or migratory birds. This includes drilling and blasting for the construction of piers and abutments for the new bridge and rock shed and any associated de-watering activities.
	I	The Caltrans Resident Engineer, in consultation with the biologist and/or environmental monitor would have the authority to halt any action that might result in impacts that exceed the anticipated levels of impact that were determined during agency review (by Caltrans, Army Corps of Engineers, Department of Fish and Game, Coastal Commission, and/or U.S. Fish and Wildlife Service) of the proposed actions. If work is stopped, the Biologist or Environmental Monitor would immediately notify these same regulatory agencies.
	J	All refueling and maintenance of equipment and vehicles would be at least 20 meters (60 feet) from any aquatic habitat, wetland area, or any water body. The contractor would ensure contamination of habitat does not occur during such operations. All workers would be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur
	K	Prior to the onset of work, the Army Corps of Engineers would ensure that the permittee has prepared a plan to allow a prompt and effective response to any accidental spills around aquatic habitats. All workers would be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
	L	Erosion Control and Storm Water Management. All construction activities would be completed in accordance with Caltrans National Pollution Discharge Elimination System Permit, the General Construction Permit, and Caltrans Statewide Storm Water Management Plan.
	M	To protect the Pacific Ocean, Caltrans would implement best management practices as identified by the appropriate Regional Water Quality Control Board. These best management practices would be implemented to minimize or eliminate the potential for a non-storm water discharge to occur. Construction site best management practices are addressed in detail in the Storm Water Pollution Control Plan that would be developed for the project site.
	N	If a work site is to be temporarily dewatered by diversion, pumping, and treating, intakes would be completely screened with wire mesh not larger than five millimeters to prevent all aquatic wildlife from entering the pump system. Water shall be released or pumped to an appropriate location at a rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow would be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

Section Number Reference	Mitigation Reference	Mitigation Commitments
2.3.3 Animal Species	A	One year prior to construction, pre-construction surveys would be conducted during the nesting season to identify the presence or absence of active nests for birds protected under the Migratory Bird Treaty Act If birds are nesting, after their dispersal, bird netting would be installed to deter nesting during construction
2.3.4 Threatened and Endangered Species	A	The number of access routes, size of staging areas, and the total area of activity would be limited to the minimum necessary to safely construct this project
	B	As a result of technical assistance from U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act, the single Smith's blue butterfly host plant (buckwheat) would be removed, with the surrounding soils and duff, and relocated outside the area of direct impact to an area nearby that has established buckwheat plants
	C	Due to their curious nature, condors may frequent the construction site and perch on large equipment, looking for food scraps. During construction, all food-related trash shall be properly contained and regularly removed from the work site.
	D	A Caltrans biologist or designee would monitor sea otter activity during events that cause loud noises, such as blasting, for observation of abnormal activity or behavior and contact U.S. Fish and Wildlife Service if such behavior occurs
	E	Due to the time that would elapse before project construction and because the biological environment in the project area is subject to change, pre-construction surveys would be undertaken during the appropriate survey season, approximately one year prior to construction to identify up-to-date distribution of special-status species. If any federally listed species are found during the pre-construction surveys, no construction would be undertaken until consultation was completed between the Federal Highway Administration and the U. S. Fish and Wildlife Service. If any state special-status species were found during the pre-construction surveys, no construction would be undertaken until consultation was completed between Caltrans and the California Department of Fish and Game. All requirements, resulting from consultation with the resource agencies would be followed.
	F	A Caltrans biologist (or designee) would conduct a training session for all construction personnel before any construction activities begin. The training session would include a description of all special-status species known to occur in the project vicinity (Smith's blue butterfly and buckwheat host plants, California condor, and southern sea otter). The biologist would discuss their habitats, their importance, and general measures being implemented to conserve these species as they relate to the project boundaries. Brochures, photographs, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
	G	A biological/environmental monitor would be present onsite during construction activities that may impact special-status species. This includes blasting for the construction of structure piers and abutments and any associated de-watering activities.
	H	If any special-status species are found during construction, the Environmental Branch shall be contacted immediately. After any and all required consultations with agencies have occurred, the Caltrans Biologist or designee shall be present at the construction site until such time as special-status species have been removed and any special instructions have been given to construction personnel.
	I	The Caltrans resident engineer, in consultation with the biologist and/or environmental monitor would have the authority to halt any action that might result in impacts that exceed the anticipated levels of impact that were determined during agency review (between Caltrans, U.S. Army Corps of Engineers, California Department of Fish and Game, and/ or U.S. Fish and Wildlife Service). Once work has stopped, the biologist or environmental monitor would notify these same regulatory agencies.
2.3.5 Invasive Species	A	In compliance with the Executive Order on Invasive Species, E.O. 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project would not use species on the California List of Noxious Weeds.

	B	Measures to control invasive exotic plants would be implemented according to the Caltrans Landscape Architect's recommendations. Exotic and invasive weeds such as ice plant, kikuyu grass, fennel, pampas grass, fountain grass, and other assorted invasive plants that are listed as "most invasive" on the list would be removed within the project area and topsoil would not be used in any revegetation areas due to the presence of a high quantity of weed seeds, unless a weed removal program is implemented.

Appendix D Notice of Preparation

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
GOVERNOR

Notice of Preparation

Tal Finney
INTERIM DIRECTOR

November 4, 2003

To: Reviewing Agencies

Re: Improvements to Highway 1 at Pitkins Curve/Rainrocks
SCH# 2003111016

Attached for your review and comment is the Notice of Preparation (NOP) for the Improvements to Highway 1 at Pitkins Curve/Rainrocks draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Dave Rasmussen
Department of Transportation, District 5
50 Higuera Street
San Luis Obispo, CA 93041-5415

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Associate Planner, State Clearinghouse

Attachments
cc: Lead Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
916-445-0613 FAX 916-323-3018 www.opr.ca.gov

FROM OPR (MON) 12 8'03 11:49/ST 11:49/NO 4862620292 P 2

Document Details Report
State Clearinghouse Data Base

SCH# 2003111016
Project Title Improvements to Highway 1 at Pitkins Curve/Rainrocks
Lead Agency Caltrans #5

Type NOP Notice of Preparation

Description Caltrans and FHWA have allocated funds to select a project which would increase roadway reliability and safety while decreasing maintenance costs at the Pitkins Curve/Rainrocks location.

Lead Agency Contact

Name Dave Rasmussen
Agency Department of Transportation, District 5
Phone 805-549-3677 **Fax**
email
Address 50 Higuera Street
City San Luis Obispo **State** CA **Zip** 93041-5415

Project Location

County Monterey
City
Region
Cross Streets
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues

Reviewing Agencies Resources Agency; Department of Parks and Recreation; Native American Heritage Commission; California Highway Patrol; Department of Fish and Game, Region 3

Date Received 11/04/2003 **Start of Review** 11/04/2003 **End of Review** 12/03/2003

Note: Blanks in data fields result from insufficient information provided by lead agency.

FROM OPR (MON)12. 8'03 11:50/ST. 11:49/NO. 4862620292 P 4

NOP Distribution List

County: Monterey   SCH# [illegible]

Resources Agency

- Resources Agency
  Nadell Gayou
- Dept. of Boating & Waterways
  Suzi Betzler
- California Coastal Commission
  Elizabeth A. Fuchs
- Colorado River Board
  Gerald R. Zimmerman
- Dept. of Conservation
  Roseanne Taylor
- California Energy Commission
  Environmental Office
- Dept. of Forestry & Fire Protection
  Allen Robertson
- Office of Historic Preservation
  Hans Kreutzberg
- Dept of Parks & Recreation
  B. Noah Tilghman
  Environmental Stewardship Section
- Reclamation Board
  Lori Buford
- Santa Monica Mountains Conservancy
  Paul Edelman
- S.F. Bay Conservation & Dev't. Comm.
  Steve McAdam
- Dept. of Water Resources
  Resources Agency
  Nadell Gayou

Fish and Game

- Dept. of Fish & Game
  Scott Flint
  Environmental Services Division
- Dept. of Fish & Game 1
  Donald Koch
  Region 1
- Dept. of Fish & Game 2
  Banky Curtis
  Region 2
- Dept. of Fish & Game 3
  Robert Floerke
  Region 3
- Dept. of Fish & Game 4
  William Laudermilk
  Region 4
- Dept. of Fish & Game 5
  Don Chadwick
  Region 5, Habitat Conservation Program
- Dept. of Fish & Game 6
  Gabrina Gatchel
  Region 6, Habitat Conservation Program
- Dept. of Fish & Game 6 I/M
  Tammy Allen
  Region 6, Inyo/Mono, Habitat Conservation Program
- Dept. of Fish & Game M
  Tom Napoli
  Marine Region

Other Departments

- Food & Agriculture
  Steve Shaffer
  Dept. of Food and Agriculture
- Dept. of General Services
  Robert Sleppy
  Environmental Services Section
- Dept. of Health Services
  Wayne Hubbard
  Dept. of Health/Drinking Water

Independent Commissions, Boards

- Delta Protection Commission
  Debby Eddy
- Office of Emergency Services
  John Rowden, Manager
- Governor's Office of Planning & Research
  State Clearinghouse
- ______________
- Native American Heritage Comm.
  Debbie Treadway
- Public Utilities Comm...sion
  Ken Lewis
- State Lands Commission
  Jean Sarino
- Tahoe Regional Planning Agency (TRPA)
  Lyn Barnett

Business, Trans & Housing

- Caltrans - Division of Aeronautics
  Sandy Hesnard
- Caltrans - Planning
  Ron Helgeson
- California Highway Patrol
  Lt. Julie Page
  Office of Special Projects
- Housing & Community Development
  Cathy Creswell
  Housing Policy Division

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  Bill Figge
  District 11
- Dept. of Transportation 12
  Bob Joseph
  District 12

Cal EPA

Air Resources Board

- Airport Projects
  Jim Lerner
- Transportation Projects
  Kurt Karperos
- Industrial Projects
  Mike Tollstrup

- California Integrated Waste Management Board
  Sue O'Leary
- State Water Resources Control Board
  Jim Hockenberry
  Division of Financial Assistance
- State Water Resources Control Board
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- State Water Resouces Control Board
  Mike Falkenstein
  Division of Water Rights
- Dept. of Toxic Substances Control
  CEQA Tracking Center

Regional Water Quality Control Board (RWQCB)

- RWQCB 1
  Cathleen Hudson
  North Coast Region (1)
- RWQCB 2
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- RWQCB 3
  Central Coast Region (3)
- RWQCB 4
  Jonathan Bishop
  Los Angeles Region (4)
- RWQCB 5S
  Central Valley Region (5)
  - RWQCB 5F
    Central Valley Region (5)
    Fresno Branch Office
  - RWQCB 5R
    Central Valley Region (5)
    Redding Branch Office
- RWQCB 6
  Lahontan Region (6)
  - RWQCB 6V
    Lahontan Region (6)
    Victorville Branch Office
- RWQCB 7
  Colorado River Basin Region (7)
- RWQCB 8
  Santa Ana Region (8)
- RWQCB 9
  San Diego Region (9)
- Other ______________

CA Dept. of Transportation
District 5
50 Higuera St.
San Luis Obispo CA 93401

NOP Mailing List
OPR SCH

Pitkins Curve/Rainrocks
5-MON-1 PM 21.3/21.6
10/29/03

Organization	Address	City	St.	Zip
Office of Planning & Research	1400 Tenth Street	Sacramento	CA	95814
Los Padres National Forest Supervisor's Office	6755 Hollister Ave., Suite 150	Goleta	CA	93117
Monterey Bay National Marine Sanctuary	299 Foam Street	Monterey	CA	93940
U.S. Army Corps of Engineer	333 Market St.	San Francisco	CA	94105-2197
U.S. Environmental Protection Agency	Region 9 (WTR-8), 75 Hawthorne St.	San Francisco	CA	94105
U.S. Fish & Wildlife Service	2493 Portola Road, Suite B	Ventura	CA	93003
U.S. Forest Service Los Padres National Forest	406 S. Mildred	King City	CA	93930
Association of Monterey Bay Area Governments	445 Reservation Road, Suite G	Marina	CA	93933-0809
Monterey Bay Unified Air Pollution Control District	24580 Silver Cloud Ct.	Monterey	CA	93940
Monterey County Planning & Building Dept.	2620 First Avenue	Marina	CA	93933
San Luis Obispo Council of Governments	1150 Osos Street, Suite 202	San Luis Obispo	CA	93401
San Luis Obispo County, Planning Dept.	County Government Center	San Luis Obispo	CA	93408
Transportation Agency of Monterey County	55-B Plaza Circle	Salinas	CA	93901-2902
CA Coastal Commission	725 Front Street, Suite 300	Santa Cruz	CA	95060
CA Dept. of Fish & Game	20 Lower Ragsdale Dr., #100	Monterey	CA	93940
CA Dept. of Parks & Recreation	Big Sur Station #1	Big Sur	CA	93920
CA Dept. of Parks & Recreation	PO Box 942896	Sacramento	CA	94296-001
CA Dept. of Parks & Recreation, Monterey District	2211 Garden Road	Monterey	CA	93940
CA Highway Patrol, Monterey Area	19055 Portola Dr.	Salinas	CA	93908-1822
CA Regional Water Quality Control Board	81 Higuera St., Suite 200	San Luis Obispo	CA	93401
CA State Coastal Conservancy	1330 Broadway, 11th Floor	Oakland	CA	94612-2530
CA State Historic Preservation Office	P.O. Box 942896	Sacramento	CA	94296-0001
CA Trade & Commerce Agency	801 "K" Street, Suite 1600	Sacramento	CA	95814

SCH NO. 2003 111 016

NOTICE OF PREPARATION

To:

From: California Department of Transportation
District 5,
50 Higuera St.
San Luis Obispo, CA 93401

Subject: **Notice of Preparation of a Draft Environmental Impact Report**
[Reference: Division 13, Public Resources Code, Section 21080.4 (State)]

This is to inform you that the California Department of Transportation (Caltrans), in cooperation with the Federal Highway Administration (FHWA), will be the Lead Agency and will prepare an EIR for the project described herein and depicted on the attached maps. We request your participation as a responsible agency in preparation and review of this document.

We need to know the applicable permit and environmental review requirements of your agency and the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

Due to the time limits mandated by State law, ***your response must be sent*** at the earliest possible date but ***not later than 30 days after receipt of this notice***. A Scoping/Public Information Meeting is being held in Big Sur during the evening of November 19, 2003, as detailed in the attached invitation. We invite you to attend to learn more about the project.

Project Title: Improvements to Highway 1 at Pitkins Curve/Rainrocks

Project Location: The project is located 0.3 mile north of Limekiln Creek on Highway 1 along the Big Sur coast, between kilopost 34.2 and 34.8 (postmile 21.3 and 21.6), in Monterey County, California. It encompasses two areas of roadway instability. The southernmost, commonly known as "Rainrocks", is subject to regular occurrences of severe rockfall. To the north, the roadway at "Pitkins Curve", is closed for extended periods as a result of landslides.

Project Description: Caltrans and FHWA have allocated funds to select a project which would increase roadway reliability and safety while decreasing maintenance costs at the Pitkins Curve/Rainrocks location. Caltrans has begun environmental and engineering studies and is in the early stages of developing alternative solutions, evaluating potential environmental impacts and preparing an Environmental Impact Report to meet CEQA requirements for this project.

Alternative solutions currently under consideration include:

1. Continued management and maintenance of the project location (No-Build),
2. Construction of a retaining wall at Pitkins Curve combined with construction of a rockshed at Rainrocks.
3. Construction of a bridge at Pitkins Curve combined with construction of a rockshed at Rainrocks.

Environmental factors potentially affected include:

1. Aesthetics
2. Terrestrial and marine biological resources
3. Geology and soils
4. Transportation and traffic movement during construction

Send your response and direct any comments regarding this project to Wendy Waldron, Environmental Project Manager, at the address shown above, or call (805) 549-3118. Please include the name of the person in your agency we should use as our main contact.

Date: October 22, 2003

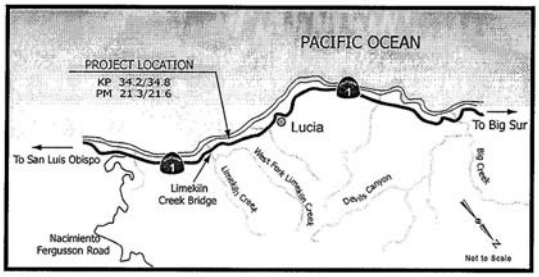
Signature: Wendy Waldron for
Senior Environmental Branch Chief

Attachments: Project Map
USGS Quadrangle
Scoping/Informational Meeting invitation

Public Notice

U.S. Department of Transportation Federal Highway Administration

ANNOUNCEMENT of PUBLIC SCOPING MEETING/OPEN HOUSE For Improvements to Highway 1 at Pitkins Curve/Rainrocks, near Limekiln Creek, in Monterey County.



WHERE AND WHEN?

Date: Wednesday, November 19, 2003
Time: 5:00 p.m. to 8:00 p.m.
Place: Big Sur Lodge
47225 Highway One
Big Sur, CA 93920

WHAT'S BEING PLANNED

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) have allocated funds to identify, study and select a project which would increase roadway reliability and safety while decreasing maintenance costs at a combined area of landslides (known as Pitkins Curve) and rockfall (known as Rainrocks-north chute). The project is located 0.3 mile north of the Limekiln Creek Bridge along the Big Sur coast, Highway 1 in Monterey County.

WHY THIS AD

Caltrans has begun environmental and engineering studies and is in the early stages of preparing an Initial Study/Environmental Assessment to meet CEQA/NEPA requirements for this project.

This ad is an announcement of a Public Scoping/Information Meeting. The meeting is being held to provide information and seek response from agencies, interested parties and the community regarding the project environmental process and the scope of the studies being undertaken.

WHERE DO YOU COME IN?

The meeting will provide the opportunity to learn about and discuss the project.

- **Open House:** From 5:00 to 6:00 p.m., project information will be displayed and Caltrans staff will be available to discuss the project in a small group or one-on- one format.

- **Presentation/Question and Answer:** At 6:00 p.m. Caltrans staff will gather the audience, give a brief presentation, invite discussion and answer questions. The Open House format will resume following the question and answer period.

CONTACT

For more information about this study, please contact Dave Rasmussen, Project Manager, at (805) 549-3677 or Wendy Waldron, Project Environmental Planner, at (805) 549-3118. For all other State Highway matters, please contact District 05 Public Affairs at (805) 549-3318.

SPECIAL ACCOMMODATIONS

Individuals who require documents in alternative formats are requested to contact the District 5 Public Affairs Office at (805) 549-3318. Telecommunications Devices for the deaf (TDD) users may contact the California Relay Service TDD line at 1-800-735-2929 or Voice Line at 1-800-735-2922.

rv 10/15/03

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
TELEPHONE (805) 549-3111
TDD (805) 549-3259
http://www.dot.ca.gov/dist05

Flex your power!
Be energy efficient!

October 22, 2003

To: All interested parties,

Subject: **Announcement of a Scoping Meeting/Open House for improvements to Highway 1 at Pitkins Curve/Rainrocks, near Limekiln Creek, Monterey County, California**

Arrangements have been made for a Scoping meeting to provide information and seek response from agencies, interested parties and the community regarding the environmental process and scope of studies being undertaken for proposed improvements to Highway 1 at Pitkins Curve/Rainrocks, in Monterey County. The meeting will be held:

Date: Wednesday, November 19, 2003

Time: 5:00 to 8:00 p.m.

- Open House: 5:00 to 6:00 p.m.: Project information will be displayed and Caltrans staff will be available to discuss the project.
- Presentation/Question and Answer: 6:00 p.m.: Caltrans staff will gather the audience, give a brief presentation, invite discussion and answer questions.
- Open House format will resume at 7:00 p.m.

Place: Big Sur Lodge, Pfeiffer Big Sur State Park
47225 Highway One,
Big Sur, CA 93922.

Caltrans and the Federal Highway Administration (FHWA) have allocated funds to identify, study and select a project, which would increase roadway reliability and safety while decreasing maintenance costs at the Pitkins Curve/Rainrocks-north chute location; a section of roadway that experiences severe instability and periodic failure. Caltrans has begun environmental and engineering studies and is in the early stages of developing alternative solutions, evaluating potential environmental impacts and preparing an Environmental Impact Report/ Finding of No Significant Impact to meet CEQA/NEPA requirements for this project.

For more information about this study, please contact Dave Rasmussen, Project Manager, at (805) 549-3677 or Wendy Waldron, Project Environmental Planner, at (805) 549-3118.

Attach: Project Location and Vicinity maps

"Caltrans improves mobility across California"

Appendix E United States Fish and Wildlife Service Species List

LISTED, PROPOSED, AND CANDIDATE SPECIES
WHICH MAY OCCUR IN THE LOPEZ POINT 7.5 MINUTE QUADRANGLE,
MONTEREY COUNTY, CALIFORNIA

Mammals		
Southern sea otter	*Enhydra lutris nereis*	T
Birds		
Bald eagle	*Haliaeetus leucocephalus*	PD, T
Brown pelican	*Pelecanus occidentalis*	E
Marbled murrelet	*Brachyramphus marmoratus*	T
California condor	*Gymnogyps californianus*	E
Western snowy plover	*Charadrius alexandrinus nivosus*	T, CH
Amphibians		
California red-legged frog	*Rana aurora draytonii*	T, CH
Fish		
Tidewater goby	*Eucyclogobius newberryi*	E
Invertebrates		
Smith's blue butterfly	*Euphilotes enoptes smithi*	E
Plants		
Beach layia	*Layia carnosa*	E
Coastal dunes milk-vetch	*Astragalus tener* var. *titi*	E
Tidestrom's lupine	*Lupinus tidestromii*	E
Yadon's piperia	*Piperia yadonii*	E
Sand gilia	*Gilia tenuiflora* ssp. *arenaria*	E
Monterey spineflower	*Chorizanthe pungens* var. *pungens*	T, PCH
Hickman's potentilla	*Potentilla hickmanii*	E

Key:
E - Endangered T - Threatened CH - Critical habitat
PD - Proposed for delisting
PCH - Critical habitat which has been proposed
C - Candidate species for which the Fish and Wildlife Service has on file sufficient information on the biological vulnerability and threats to support proposals to list as endangered or threatened.

Appendix F List of Technical Studies that are Bound Separately

Copies of the following technical studies can be requested from:

Caltrans District 5
50 Higuera Street
San Luis Obispo CA 93401
wendy_waldron@dot.ca.gov

Air Quality Report
Noise Study Report
Water Quality Report
Natural Environment Study
Shoreline Biological Characterization
Historical Property Survey Report

- Archaeological Survey Report[31]

Hazardous Waste Reports

- Initial Site Assessment

Scenic Resource Evaluation/Visual Assessment
Initial Paleontology Study
Preliminary Geotechnical Report
Project Study Report

[31] The Archaeological Survey Report contains confidential information and cannot be made available. A summary of the study is included in the Historic Property Survey Report, which can be distributed upon request.